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JUNE 27, 1966

RAILWAY AGE WEEKLY

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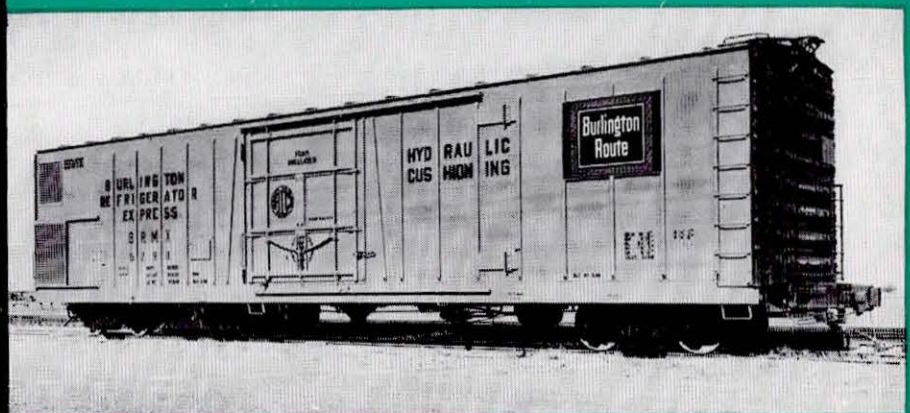

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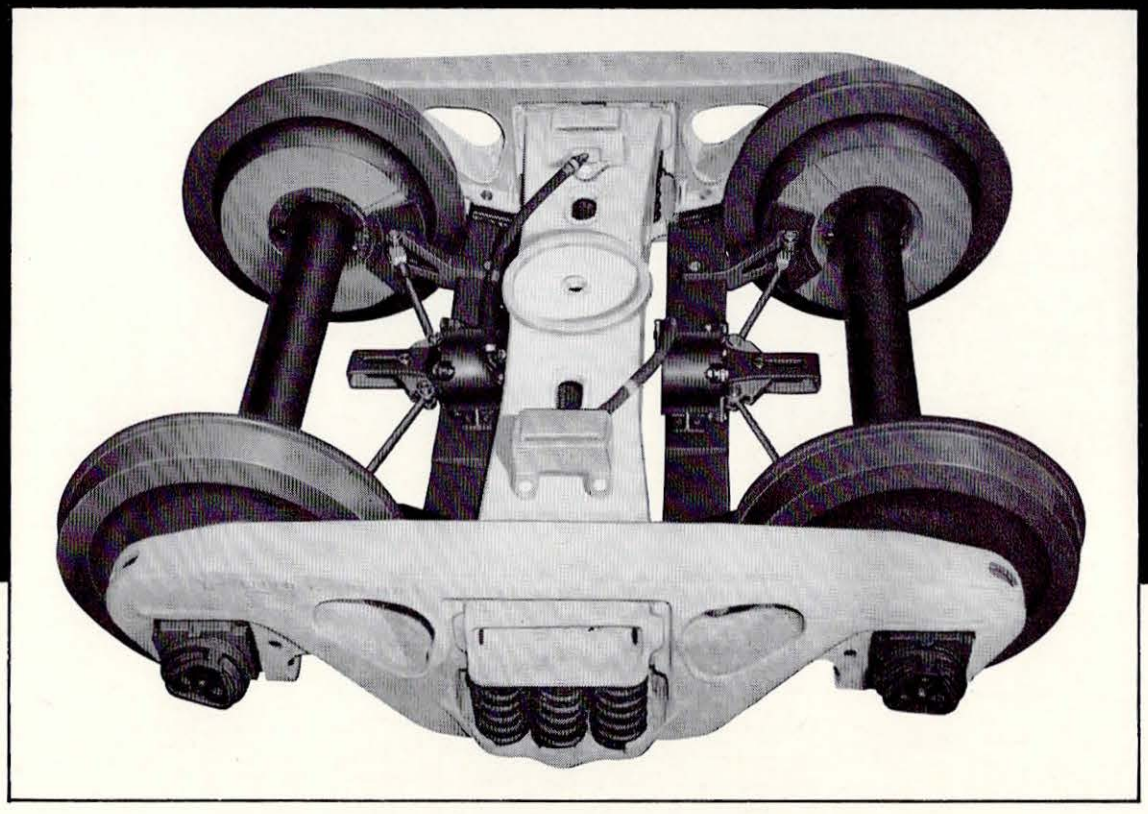
BUFFALO BRAKE BEAM COMPANY

THE NEW BUFFALO DISC BRAKE TRUCK-MOUNTED



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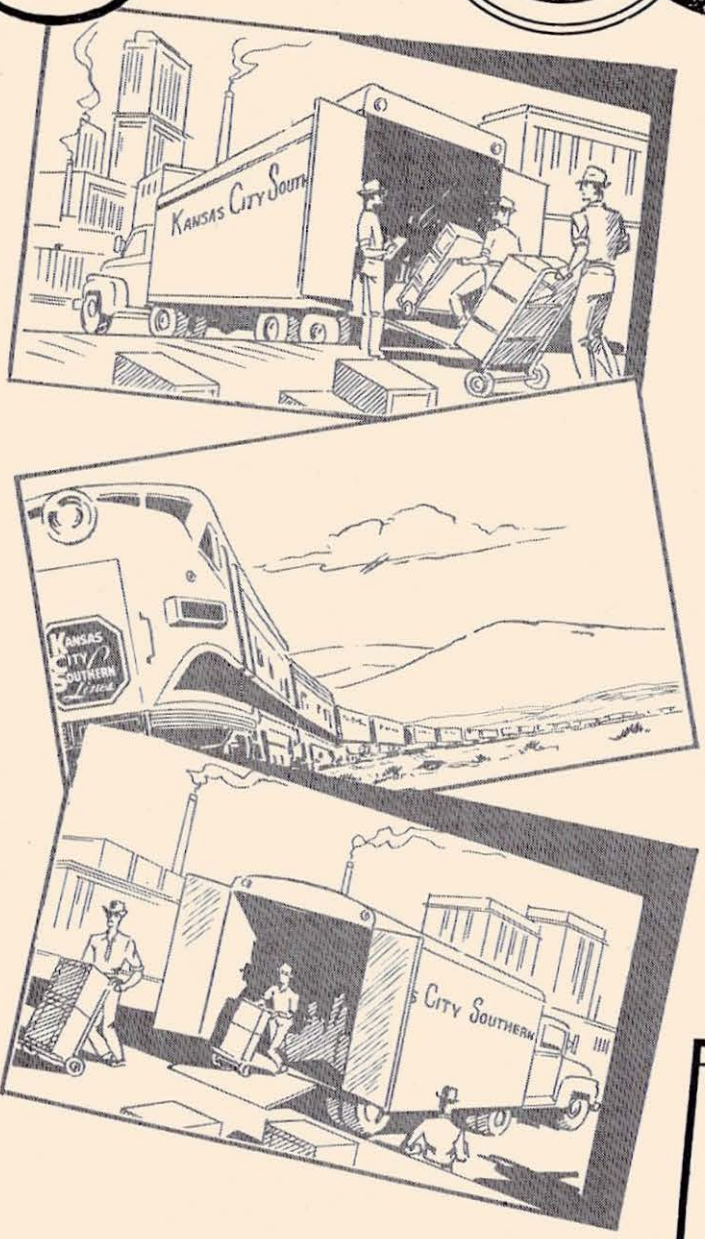

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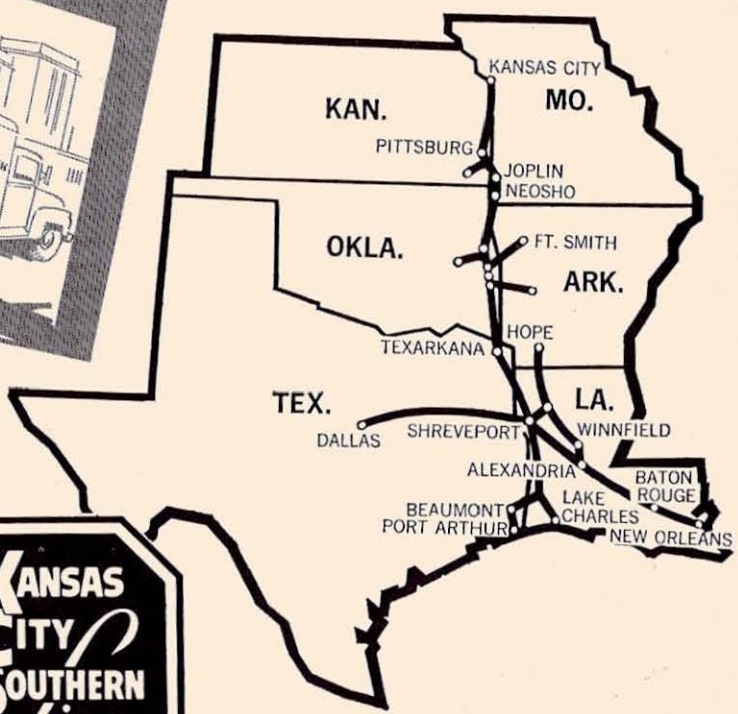

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END-OF-CAR HIGH CAPACITY
HYDRAULIC CUSHIONING SYSTEMS

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RAILWAY AGE

June 27, 1966 • Vol. 160, No. 25

THIS WEEK

19 'Slowdown' not likely to alter traffic mix

Present traffic patterns would not be affected by a general business slowdown, say respondents to this month's Traffic Poll.

20 Great Northern gets first SD-45s

The eight giant 3,600-hp diesels, built by EMD, are going into the Great Northern's fast freight service.

22 AAR mechanical research covers a wide range

Here's a quick rundown on some major project areas now being handled by the AAR's Chicago Research Center.

26 Kingsize reefers please shippers

The Burlington's 60-ft mechanical refrigerator cars, said to be the largest of their kind, cost $30,000 each.

50B SAL's 'Razorback' service gets former truck traffic

Iron and steel shippers have been learning that the Seaboard's Plan III TOFC gives them big per-car cost savings.

106 The Action Page: Who controls the computer?

The growing availability of computers at various prices should soon bring their advantages to all railroad departments.

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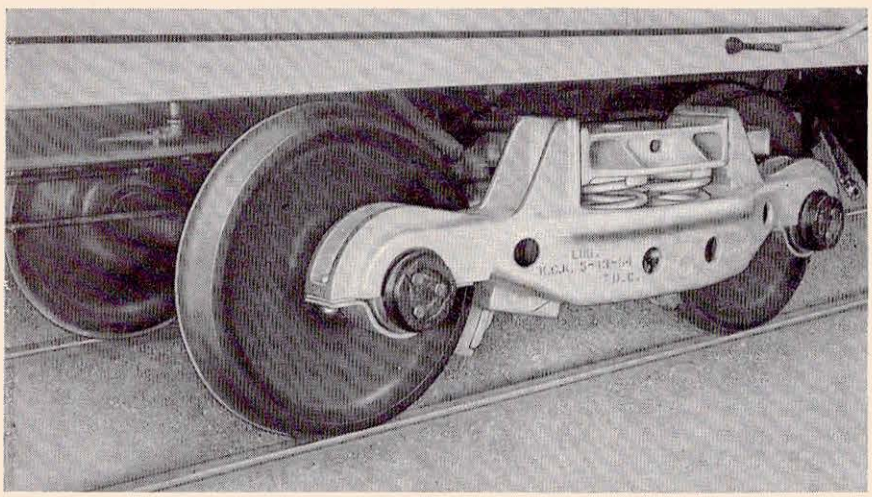

Look at the features that result in 500% increase in service life . . .

Spherical bearing in transom gives equalization without swing hangers or equalizer bars. By connecting side frames with transoms, trammel is maintained. Springs are located higher, wider, at center line of truck to give softer ride. A guided, spring-loaded, asbestos-phenolic snubber gives proper vertical and lateral dampening even with bolster having three times the lateral movement of a standard truck.

If you're looking for real proof of performance, look at this: ***A set of Rockwell express freight trucks have racked up 250,000 miles of constant use on a caboose, without repair or attention. The trucks are still running, still give a ride of quality that exceeds that of many passenger cars. Flange wear is even on all 8 wheels and very negligible; wear on trucks cannot be measured.*** Such performance doesn't just happen. It's the result of Rockwell's engineering know-how, of close personal contact with railroaders, of production techniques that insure dependability and high-quality castings.

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SHORT AND SIGNIFICANT

N&W to build new coal terminal in Ohio

Work will begin soon on a new $5,750,000 coal storage and transfer terminal for the Norfolk & Western at Sandusky, Ohio. The new facilities will provide a terminal to unload coal from incoming rail cars for temporary storage—especially during the winter months when the Great Lakes are frozen—until it can be transferred to lake vessels. In the past, when the Great Lakes were closed to shipping during the winter, coal shipments from mines to the Great Lakes were halted. N&W's new terminal initially will be capable of storing 1.2 million tons of coal, with space available to increase the capacity to as much as 4.5 million tons. It will permit the mines to continue producing lake coal on a 12-months' basis and assure continuity of operations and employment. Included in the construction will be an electric infra-red thawing plant capable of thawing 20 coal hoppers per hour.

●

Take the train and leave safety to us

Although they probably didn't realize it at the time, people who traveled by train in 1965 were more than twice as safe as those who took other forms of transportation. According to estimates furnished by government authorities and other agencies, rail travel was nearly 2½ times as safe as by bus, more than 5 times as safe as by domestic airlines, and 34 times safer than by automobile. The AAR calculates that, based on these averages, a train passenger could have gone nearly 1.5 billion miles, or crossed the continent nearly half a million times, without being involved in a fatal accident. Only 12 persons died in rail accidents last year, while approximately 100 were killed in bus mishaps, 205 on domestic airlines, and 32,700 in automobiles.

●

May employment up from April, down from May '65

U.S. railroads had 630,275 employees as of mid-May—up 0.65% from the previous month, but down 1.62% from May 1965. Preliminary figures of the ICC's Bureau of Accounts also show that the drop below May 1965 was reflected in all employee groups except two—executive, officials and staff assistants, up 4.13%, and train and engine service, up 0.42%. Mid-May employment was above that of mid-April in all groups except maintenance of equipment and stores, down 0.08%, and transportation (other than train, engine and yard), down 0.18%.

●

Railroads fined $80,550

Fines totaling $80,550 were paid in May by 27 railroads for violations of the Safety Appliance, Hours of Service, Explosives and Other Dangerous Articles, and Accident Reports acts. Biggest payers, according to the ICC, were Southern Pacific, $15,750, and Milwaukee, $9,500.

●

Labor act amendments signed into law

President Johnson last week signed into law the bill which Congress passed recently to amend the Railway Labor Act. The amendments, opposed by the railroads, provide for special adjustment boards to handle grievance cases otherwise referable to the National Railroad Adjustment Board. They also make all NRAB awards (including money awards) final and binding.

MONDAY MORNING REPORT

Science-fiction age dawns for commuters

On Thursday, June 30, at Illinois Central's Randolph Street commuter station in Chicago, IC's President W. B. Johnson and Chairman W. A. Johnston will unveil a facet of what the future holds for people who daily travel to and from cities. Civic leaders, Chicago's transportation-minded Mayor Dick Daley, other city mayors and newsmen will have a look—and get to use—some advanced, computer-controlled hardware that looks as though it is a Sunday-supplement pipe-dream.

Magnetic tickets are key to the system

Dignitaries at IC's press conference Thursday will get souvenir tickets. With them they'll be able to step into what may very well be a new era of rail commutation. The magnetically encoded tickets, inserted into one of the battery of beige machines across the train-access aisles at IC's station, will both admit the ticket-holder to the train-boarding area and record the fact that he is "in" the system for the railroad's outlet machines at other stations. When the same ticket holder gets to destination, the card, inserted into an exit machine, will have an appropriate magnetic charge subtracted, the exit machine will flash an indication of how many charges are left on the ticket to the holder, and the holder will be allowed to leave the system. At that moment, too, the machine will "erase" the presence of the commuter from the system.

A prevalence of problems came first, though

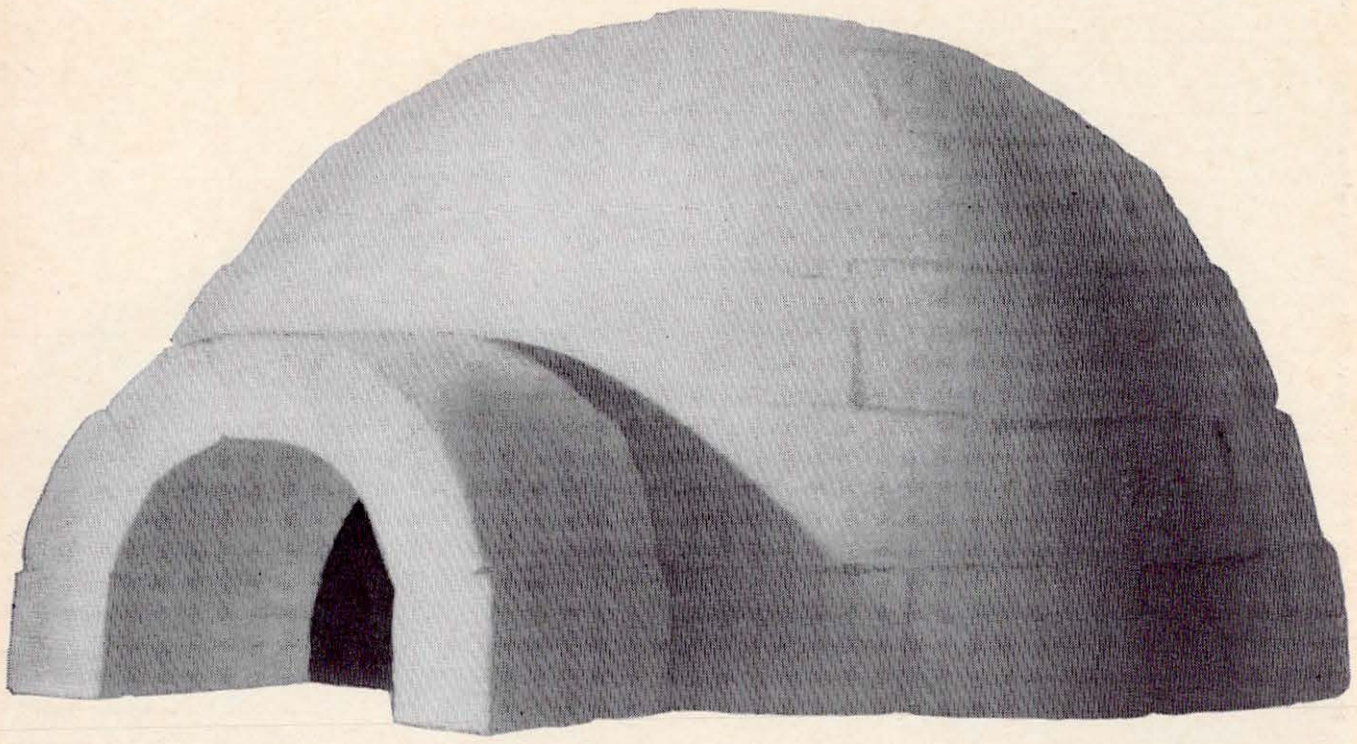
IC's managers bet a bundle on the system. It was a major effort to control ticket-selling-and-collection costs on its 38-mile, 49-station electric suburban service. IC's brass and Advance Data Systems engineers (ADS is the principal supplier) may give it the "look, Ma, no hands," kind of modest self-deprecation at the unveiling next Thursday—but, in fact, there were formidable financial, technical, commercial, labor and psychological hurdles that had to be cleared.

Aspirin must have had a role in ARCS creation

The smooth automatic revenue collection system (ARCS) that will be unveiled this week represents several millions of dollars in development costs and, probably, a record cost in aspirin for the engineers, computer technicians and operating officers who have labored over ARCS for more than two years. (After the preview showing June 30, IC will cut five stations into ARCS on July 1.) But, IC's top men, convinced they had to control ticket-selling-and-collection costs before they could logically assess what needed to be done to upgrade commuter rolling stock, persisted—and triumphed.

Now, the future comes into focus

At times, problems were pretty deep around the ADS engineers, IC Assistant Operating Vice President Wayne A. Johnston, Jr., and Superintendent Passenger Service-Special Assignment C. S. Condon—the men most intimately involved in the development and debugging of ARCS. Problems seemed to multiply with every solution. But technical problems were solved, labor agreements were written and, finally, IC began to work out the procedures for the huge task of psychologically conditioning its customers to the new system. Now, the scent of success is setting up new possibilities for IC's commuter operation—and, quite possibly, for commuter and transit operations everywhere.



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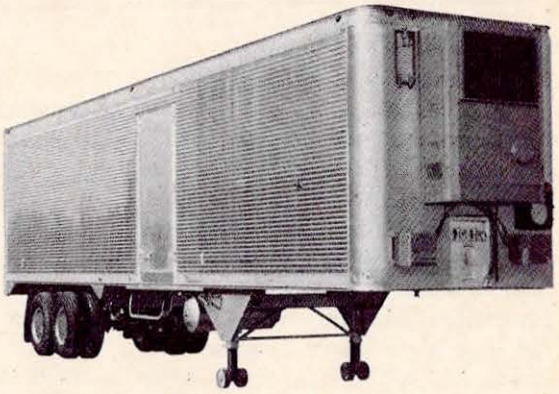
FOR KEEPING COOL

The foamed-in-place insulation we shoot between the walls of Trailmobile refrigerated vans insulates twice as well as conventional materials. It also steals less payload space and adds less weight to the trailer.

Our polyurethane foam expands with uniform density into every crack and crevice before it hardens in place. After that it won't expand more, shrink, crack, burn or absorb moisture. It's great insulation.

We design and build great capacity into every part of a Trailmobile reefer. Like the fully insulated floor and positive seal rear door that keep it even cooler. The exclusive I-Beam meat rail design. The "Z" shaped posts for structural rigidity and positive insulation.

They're all part of our capacity for building trailers and containers that help you haul big loads at less cost for more profit.



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TRAILMOBILE

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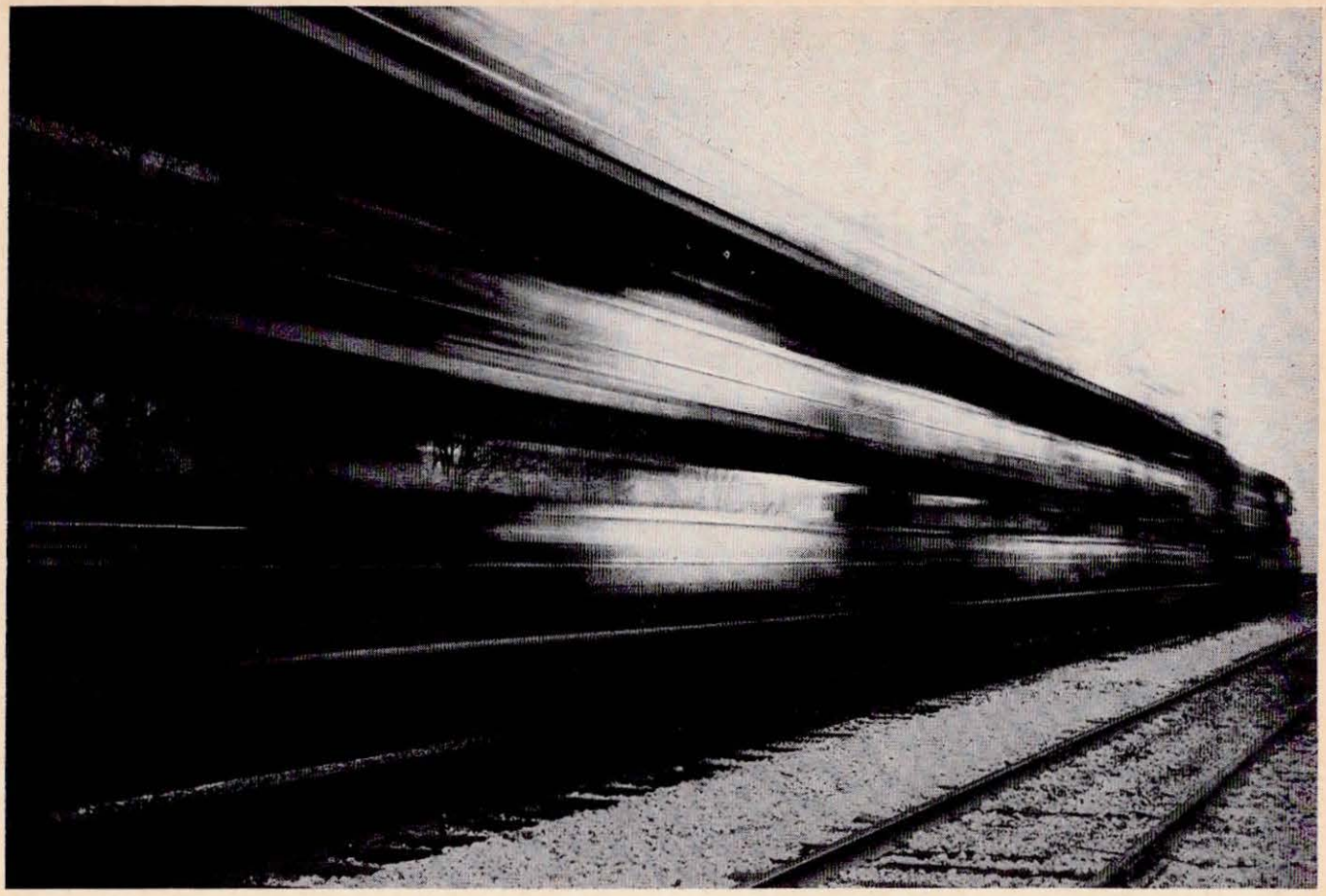

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There are many reasons you should talk to Lord about shock control.

One is our experience.

For more than 40 years Lord has pioneered in controlling shock with bonded rubber products. We're ready to put this experience to work for you.

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Lord bonded rubber is special. It's engineered with a backbone of steel to carry heavy loads. It thrives on hard knocks. Never stops cushioning, even after many thousands of deflections. Needs no lubrication. And has built-in properties that protect it from temperature, weather, grease, grit and grime.

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We've kept close track of your technology and shock problems. And we can talk your language.

The result has been new ideas to reduce damage and maintenance. Examples: Traction Motor Mountings have stopped motor damage, still performing like new after 600,000 miles. Dyna-deck® shock control systems provide 12-inch travel to cushion ladings. Many other Lord products have also proved they can handle the rough assignments.

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WEEK AT A GLANCE

ICC sets back Penn-Central merger date . . .

The Pennsylvania and the New York Central won't be able to make their merger effective Aug. 1 as planned. The ICC last week postponed the effective date of its order approving the merger, from July 29 to Aug. 12. The Commission also set back to July 11 from June 27 the deadline in filing petitions in the case.

The postponement order noted that it had resulted from the Commission's consideration of the record in the case—and requests of Erie Lackawanna and Delaware & Hudson for more time to file petitions. Those roads are expected to ask that consummation of the merger be delayed until they are assured of being included in one of the merging eastern systems. They are now asking the Commission to require their inclusion in the Norfolk & Western system, but they want in on Penn-Central if their first choice of N&W is not arranged on what they consider reasonable terms.

N&W is also a petitioner seeking to have the Penn-Central case reopened for further hearing on that condition of the Commission's approval order which requires the merged company to make temporary indemnity payments to E-L, D&H and Boston & Maine, and on the possibility of including those roads in Penn-Central. The latter would not be in the public interest, while the indemnity condition is unlawful, says N&W (RA, June 20, p. 28). A like petition has been filed jointly by the Chesapeake & Ohio and Baltimore & Ohio.

N&W and C&O have their own merger application before the Commission. It proposes what they consider the most feasible plan for taking care of E-L and D&H as well as B&M, Reading and Central of New Jersey. Thus, N&W's opposition to inclusion of those roads in its present system. The Commission's 1964 order approving formation of that system included a condition (accepted by the parties) which gave D&H, E-L and B&M five years within which to apply for inclusion.

. . . Meanwhile, PRR rebuts a labor charge

The Transport Workers Union last week charged that the Pennsylvania has laid off workers in violation of its agreement with the unions to protect employees when merger with the New York Central becomes effective. PRR's vice president of labor relations and personnel, Guy W. Knight, said it isn't so: "The scattered layoffs of workers are necessary to adapt employment to changes in work requirements at a few local points. Railroad work has always fluctuated from time to time with the rise and fall of business." Knight said the Penn-Central agreement with the unions provides protection in the merged system retroactively to employees of both lines who worked at any time between Jan. 1, 1964 and the date the merged system begins operating. "This agreement," said Knight, "has been hailed by railroad labor leaders as the best ever negotiated in the railroad industry."

Car installations up for 12-month period

In the 12 months ended May 31, Class I railroads installed 70,731 new cars—up from the 66,457 that went into service in the previous 12-month period ended May 31, 1965. For the month of May alone, 7,493 new cars were installed, nearly 2,000 cars more than were installed in May 1965.

Car retirements for the 12 months ended May 31 totaled 71,023, a drop from the 74,235 taken off the roads in the 12 months ended May 31, 1965.

The U.S. freight car fleet numbered 1,486,186 cars owned as of June 1, down slightly from the 1,486,405 reported on June 1, 1965.

FREIGHT CAR DATA—CLASS 1 ROADS

	June 1, 1966	June 1, 1965
Ownership	1,486,186	1,486,405
Serviceable owned	1,412,244	1,401,396
Awaiting repairs	73,942	85,009

New York excess crew law starts crumbling

It's taken over half a century to get repeal or modification of the excess crew law in New York, but action finally came last week. Both houses of the state legislature repealed by a wide margin two of the three provisions of the 1913 act establishing crew consists of trains operating within the state. Gov. Nelson Rockefeller, a long-time supporter of repeal, is due to sign the new act into law this week. The New York State Railroad Association estimated the move could eliminate 600 jobs and save about $4.5 million annually.

Repeal of the two sections removes the requirement for a conductor and three brakemen, in addition to engineer and fireman, on freight trains of more than 25 cars; it also strikes down obligatory five-man crews in switching operations. The provision remaining on the books keeps the fireman on the train (RA, June 20, p. 8).

Airport line proposed for Washington

Dulles International Airport, a $108-million jet facility in Virginia 25 miles from downtown Washington, D.C., has been a big disappointment since its opening a few years ago. Air travelers have blithely ignored Dulles, prefering instead the more convenient Washington National Airport, just three miles from downtown. But air traffic at Washington National is beginning to reach impossible proportions, and congestion on the ground is just as bad. Officials are now eyeing Dulles as the answer to their problems. But getting the people there is another matter.

Last week, Sen. Norris Cotton (R-NH) said he was introducing a bill to undertake a study of what it would take to get a high-speed transit line out to the airport from downtown.

GUS WELTY'S LINES ON LABOR

WELTY

FOR THE FIRST TIME in several years, railroad public relations officers are holding a meeting in which primary attention won't be given to the problems of the vast area known as employee-communications. No doubt these problems will be touched upon, at least in a peripheral way—but the bigger topics at this year's meeting of the Railroad Public Relations Association will be such things as marketing, mergers, passenger service and so forth. The emphasis, clearly, has shifted. And while the shift might be taken as an encouraging sign—of an easing of management-labor tensions, for instance—the evidence doesn't seem to point to any lesser degree of involvement for p.r. people in the sometimes-sticky business of management-employee or management-union relations.

QUITE A CASE might be made, in fact, for the continuing and intensive study of labor matters by the public relations men. Their help may be sorely needed again—and it may be needed on a more individual, more short-notice basis than it has been in the past few years.

TACTICS OF THE ORGANIZATIONS seem to be changing. Scarred in body and spirit by the work-rules case, they're searching for a new lever to use on management—and in some cases this seems to be leading them toward a greater concentration of effort on an individual-railroad basis, in certain types of negotiations.

FOR THE P.R. MAN, this can cause complications. In the rules dispute, management spoke with one voice, and the operating brotherhoods (for the most part) did, too. It was as if two opposing armies were drawn up facing each other across a field. Now, however, the battle lines are far more fluid—and as the pattern of strike activity of the past few months seems to indicate, ambush can come anyplace, anytime.

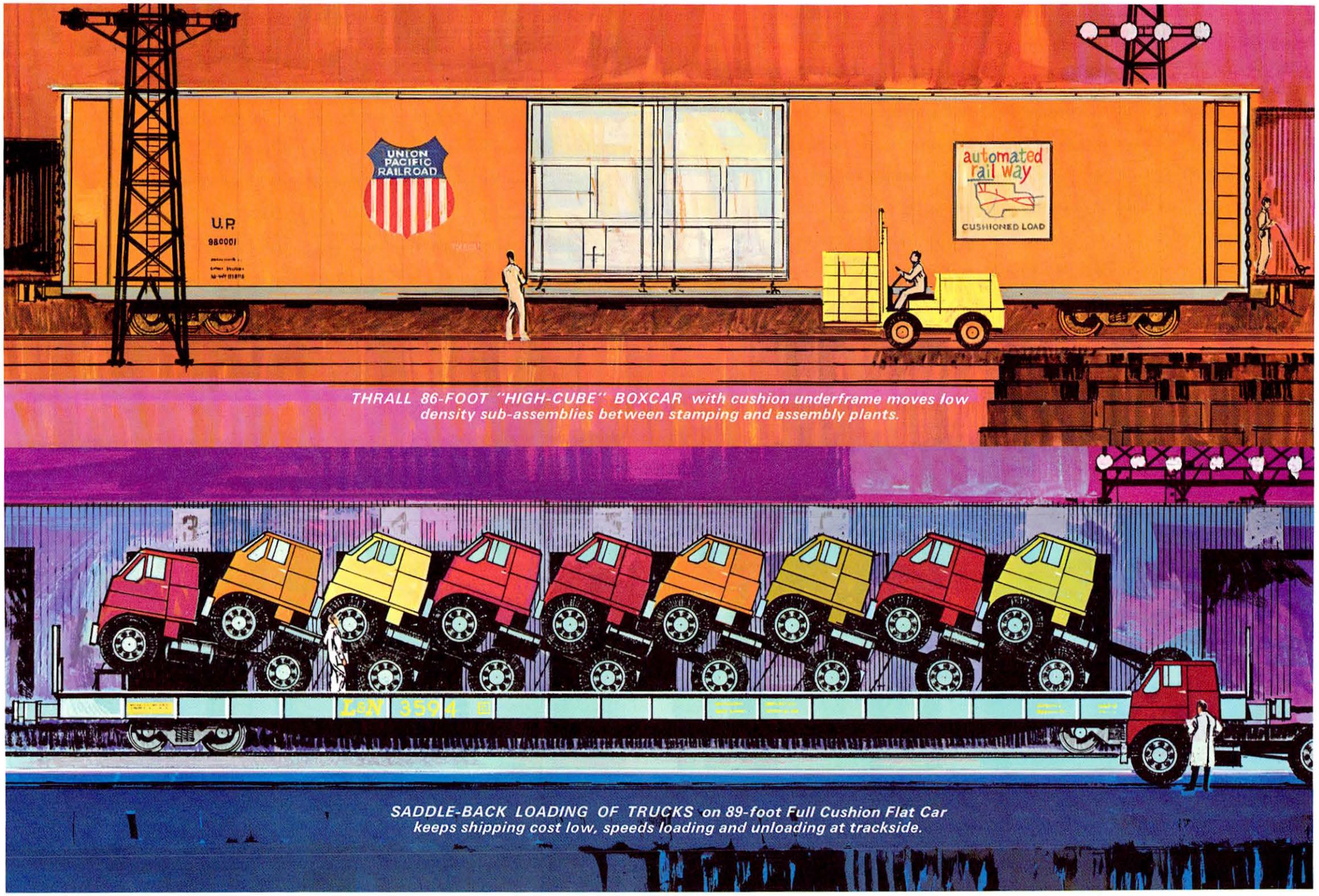
OBSERVERS POINT TO the record in the recent strike by the Brotherhood of Locomotive Firemen & Enginemen as evidence of the continuing need for close cooperation between p.r. men and personnel and labor-relations men—and as indication of the good results that can come from this kind of teamwork. (It was nowhere more obvious, perhaps, than on Illinois Central—where the doors were literally thrown open and news-media representatives invited in.)

ALL OF THIS, of course, presupposes that the labor-relations people (as well as top management) want that which a good p.r. man can accomplish. In point of fact, they do—to an increasing extent. And the way things are on the labor scene, as one observer put it, it's a wise p.r. man who makes sure he's not caught with his knowledge dragging.

THE AUTOMOTIVE INDUSTRY is one of many major shipper groups currently reaping the rewards of today's railroad freight car innovations. New concepts in "High-cube" boxcars, multiple level auto and truck cars and multi-purpose flat cars have enabled auto builders and others to move more freight faster, safer and with far greater economy than ever before possible.

Today Thrall is building (or has built) almost every type of car used by industry for "between plant" shipment of sub-assemblies and for "shipment-to-customer" of finished cars, trucks, farm and construction equipment.

Why not investigate the many ways in which versatile, high utility Thrall freight cars can improve freight distribution for you?



THRALL 86-FOOT "HIGH-CUBE" BOXCAR with cushion underframe moves low density sub-assemblies between stamping and assembly plants.

SADDLE-BACK LOADING OF TRUCKS on 89-foot Full Cushion Flat Car keeps shipping cost low, speeds loading and unloading at trackside.

THRALL CAR

CHICAGO HEIGHTS, ILLINOIS, 60412

FORWARD-THINKING RAILROADS, "AMERICA'S NEWEST INDUSTRY" HAVE BEEN WORKING WITH IMAGINATIVE CAR BUILDERS SUCH AS THRALL— TO SLASH THE COST OF MOVING THE NATION'S VITAL FREIGHT.

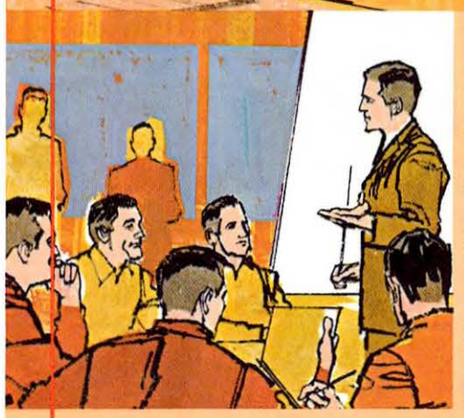
Although the railroads have been part of the American scene for well over a century, they qualify in many ways for the title "AMERICA'S NEWEST INDUSTRY". Over the past two decades they have invested more than $22,000,000,000 in building new efficiency for the nation's shippers. New rail equipment, new technological advances, new freight handling methods have literally transformed the railroads of America. Result? Rail shippers have saved over $1,400,000,000 in freight charges just since 1958!

Currently average rail freight costs are 8% lower than they were just five short years ago. Compare these figures with the cost of other essentials in our growing economy and you can readily see the distribution miracle that has been brought about by the dynamic new breed of railroad executives who are guiding "AMERICA'S NEWEST INDUSTRY."

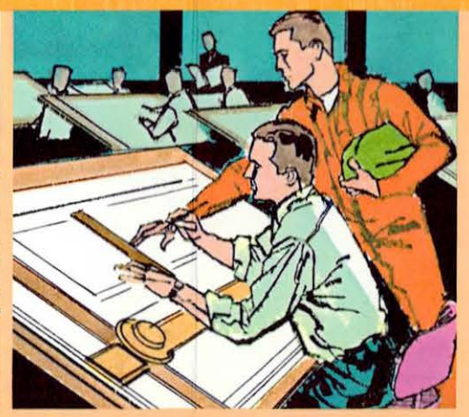
THRALL CAR

Is proud to have made important contributions to the engineering, design and construction of new, high utilization, cost-cutting freight cars.

Thrall Plant Number 1



Group leaders and supervisors attend regular classroom sessions to learn the latest techniques in handling men and equipment. Upgrading of skills is constant at Thrall.



Engineers with actual shop experience, Thrall "shirt sleeve" designers create cars that go into shop production smoothly and efficiently —deliver maximum service and satisfaction.

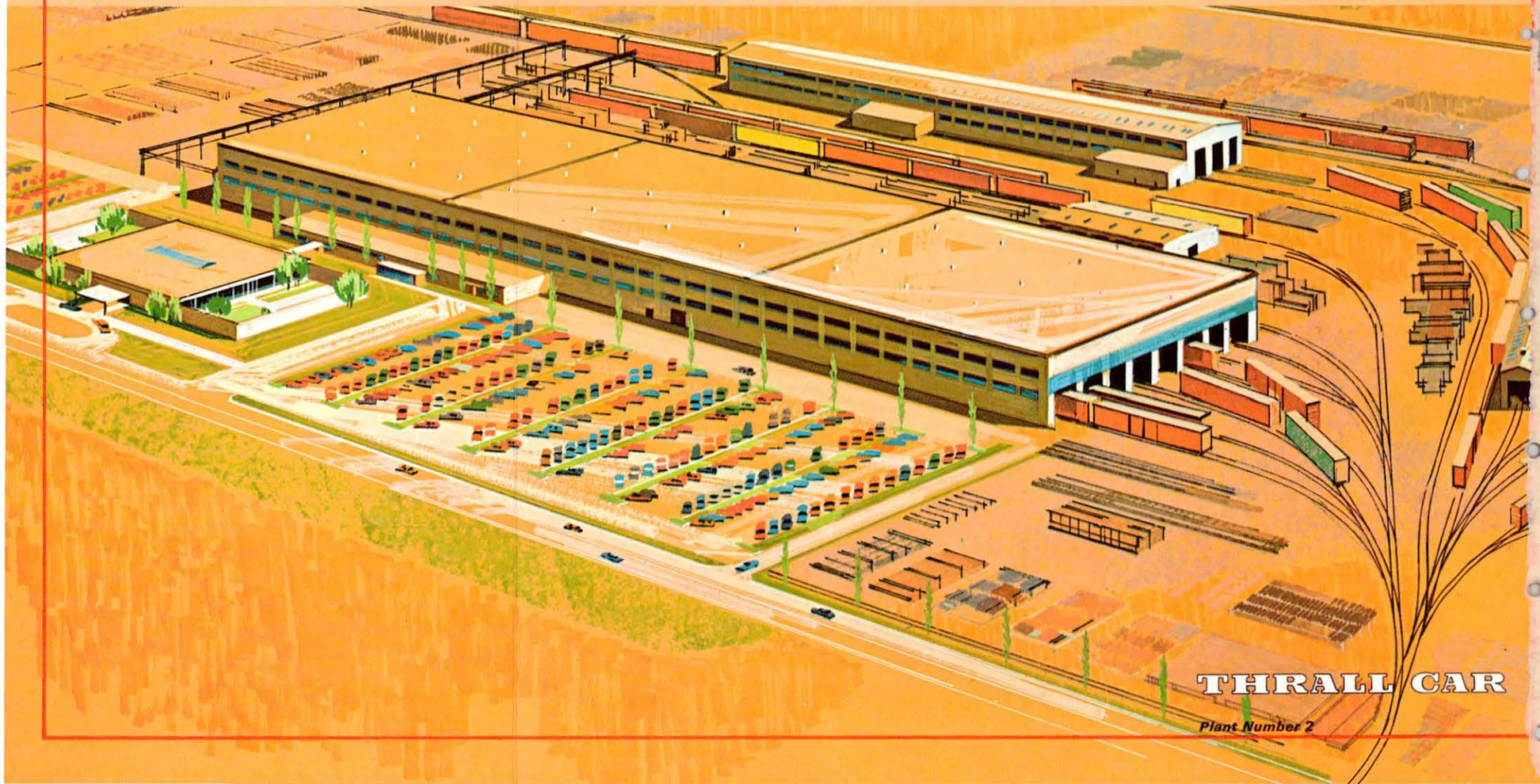
Thrall was the first to say "Yes" when the current railroad revolution created the need for specialized freight cars. And, as a result of far-sighted planning, these extraordinary new Thrall plants are unlike any other car-building facilities in the country.

Managed and staffed with people who have the vision and imagination to create cars tailored to fit your precise needs, Thrall, alone, is able to offer you:

HIGHLY FLEXIBLE, CUSTOMER-ORIENTED PRODUCTION FACILITIES FOR DESIGNING AND BUILDING TOP QUALITY SPECIALIZED FREIGHT CARS WITH ECONOMY AND SPEED—IN LARGE OR SMALL QUANTITIES

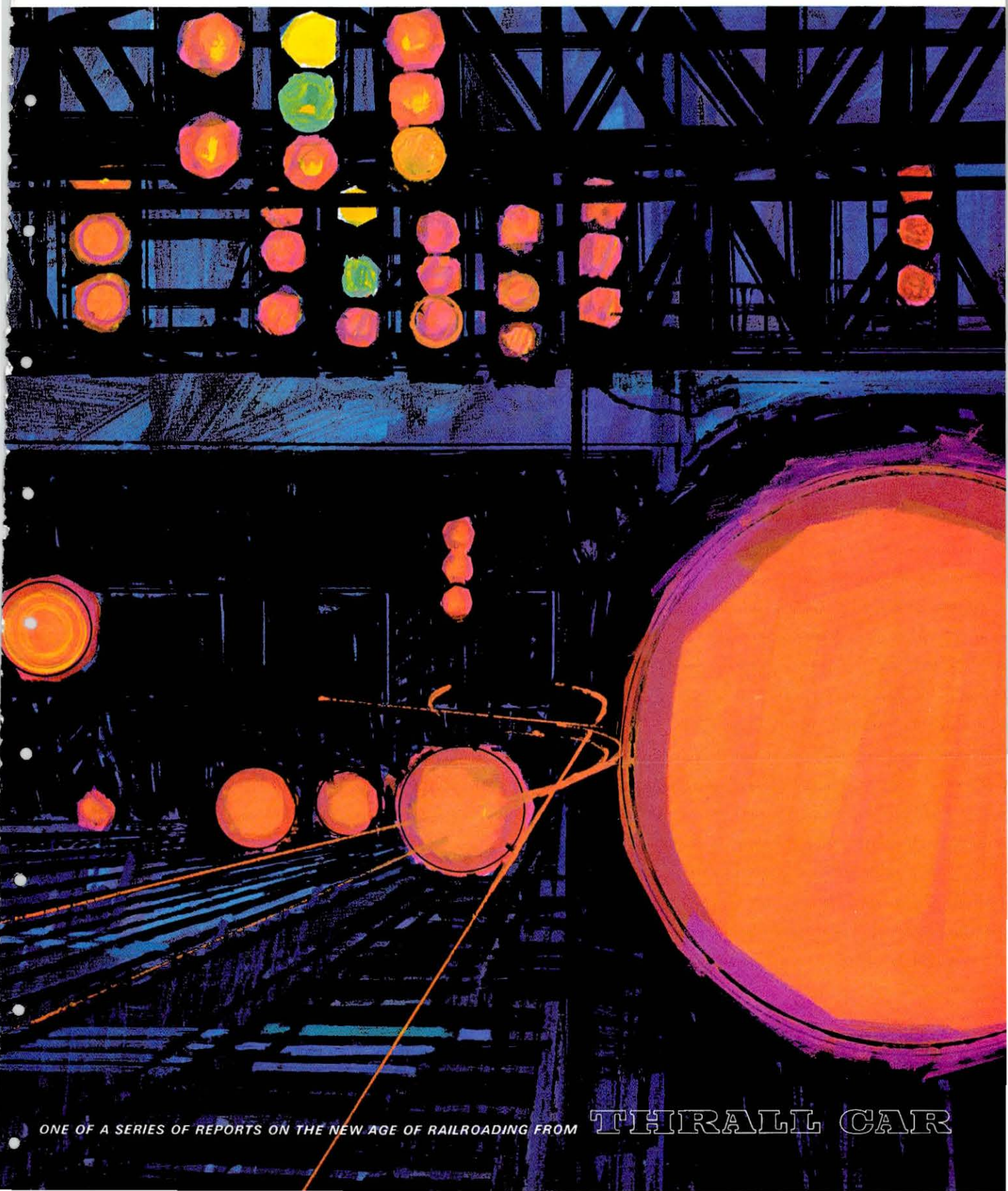
If you happen to want an ordinary, commonplace rail car, then we'd have to say "No" and tell you where to go—for a better deal with a company who builds cars in large quantities to his own specifications rather than yours.

High speed IBM computers handle the flow of paper work—assuring customers accuracy and promptness; allowing Thrall people to concentrate on building ever-better specialized cars.

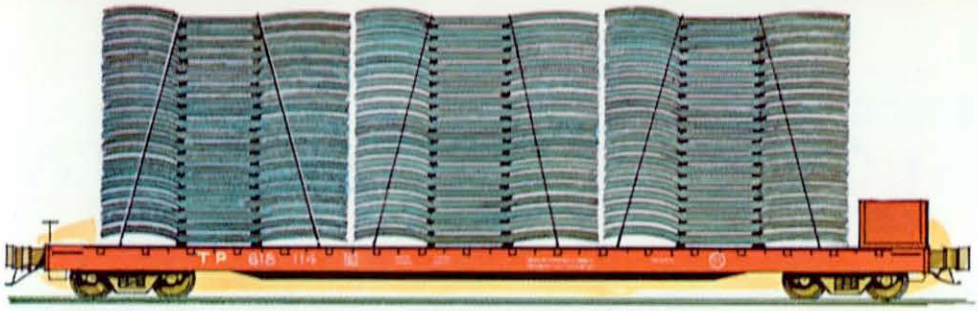


a report on AMERICA'S NEWEST INDUSTRY

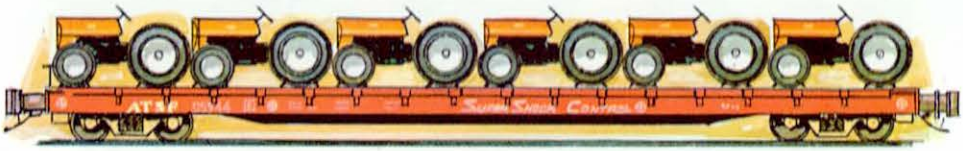
—and how it has saved shippers $1,400,000,000 in the past seven years *(AAR ESTIMATE)*



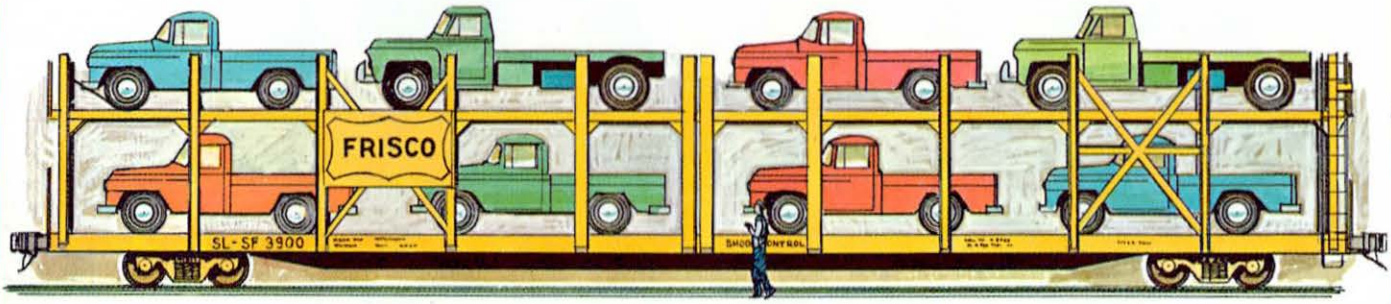
ONE OF A SERIES OF REPORTS ON THE NEW AGE OF RAILROADING FROM THRALL CAR



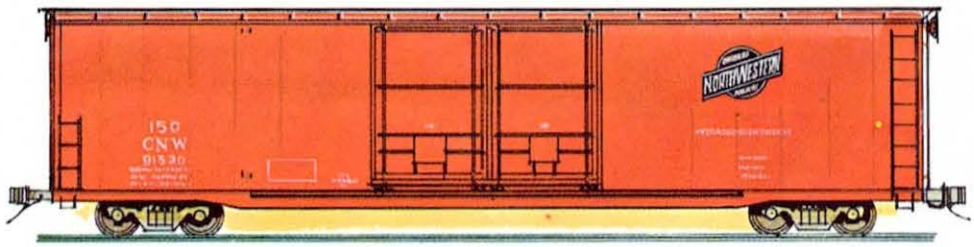
60-FOOT FLAT CAR WITH CUSHIONING is arranged here for transporting automobile underframes with efficiency and economy.



THRALL 60-FOOT FULL CUSHION FLAT CAR shown here carrying farm implements, but easily equipped for hauling lumber, machinery, many other products.



BI-LEVEL AUTO RACKS installed on Thrall basic 89-foot full cushion flat car handles eight light trucks in a single economical load.



"HI-DENSITY" 60-FOOT THRALL BOXCAR handles heavy auto parts such as engines and transmissions, reduces shipping costs, makes possible important time savings.

1) If there should be a definite economic slowdown, would your traffic mix:

Be noticeably changed? 7
Remain substantially unchanged? 32

2) If the mix would be changed, would you tend to:

Divert to rail? 6
Divert to truck, to private carriage, to unregulated carriers, or a combination of these? 9

3) If any economic slowdown should turn out to be of long duration, do you think rail service would suffer:

More than other modes? 12
The same as other modes? 16
Less than other modes? 9

'Slowdown' not likely to alter traffic mix

But shippers differ widely on the extent to which any long-continued recession in business might affect the railways.

Over-all traffic patterns would not be materially affected by any foreseeable slackening in the recent fast pace of general business activity.

Less than one out of every five industrial traffic managers answering this month's Poll anticipates that an economic slowdown would produce any noticeable change in his company's traffic mix. Most apparently agree with the Philadelphian who thinks shipments would continue to move by the same modes of transport as now, though perhaps in different volumes.

His view, that an economic slump would produce little change in relative use of transport modes, seems to be confirmed by the fact that most respondents did not answer Question 2 at all, and by the wide range of opinions on Question 3.

● **Rails might suffer less.** The nine men who feel that even a long-drawn-out slackening of business activity would hurt railways less than other modes of transport give various reasons for their answers.

"In an economic slowdown," says a Pennsylvanian, "costs would become paramount. Improved service together with lower rates give railroads an advantage that is hard to beat." An Ohioan points out that, "in a slowdown of long duration, delivery dates might not be as critical as they are now. Then, if railroads offer the over-all cheapest means of total physical distribution, they should not suffer as much as other means of transportation."

Another Ohioan says that railroads are not now handling all freight available to them. "Under an economic recession they would still receive nearly all they could handle."

A Texan suggests that increased use of special railway equipment, plus shipper provision of such equipment, and piggyback service, should "put railroads in a better position than their competition in the event of an economic slowdown."

A Northwesterner believes simply that railways "are in better position to withstand adverse economic conditions than are other means of transport."

● **Or about the same.** Somewhat the same views crop up in the answers of the 16 men who think railways would feel a business slowdown neither more nor less than their competitors.

"The rails are stronger and wiser, and, with piggyback, will hold their share," says a third Ohio traffic man.

Other respondents see little likelihood of important changes in already established traffic mixes. "Our pattern is such that a large portion of traffic must move rail," says one. "I do not feel economic conditions would change it."

A second adds that "no great diversion of traffic would result from a change in economic conditions. Small shipments are captive for motor carriers, and volume shipments move by the cheapest mode"—which, he implies, is by rail.

A third, while foreseeing no major pattern change, does think average carload weights might drop, "as customers order more to current needs and watch inventories closer." A Pennsylvanian, while predicting no change in his own company's present carload-truckload mix, thinks "certain smaller receivers of rail carloads might switch to truck movement to reduce inventory." He doubts, however, that any substantial diversion would occur because of differences in truck vs. rail rates, on the ground that such differences have already been taken into consideration.

● **Where slowdown could hurt.** The one-third of all respondents who think a long economic slowdown might hit railways with special severity attribute that possibility to lack of general rail LCL service, or to the railways' own built-in physical and financial characteristics.

As to the first, says a New Yorker, "with rail carriers giving up LCL freight more and more, mostly volume freight moves by rail. If there is a slowdown it would most likely bring with it a reduction of inventories and thus smaller orders. A good many shipments would be diverted to motor carriers, with their lower minimum weights and better facilities for LTL."

Other men make the same point in more or less detail.

"If a downturn occurs," says one, "we would probably ship in smaller quantities. The advantages of lower minimum weights by truck would, to a large extent, offset higher costs. Rails are tending towards higher and higher minima, which will definitely affect them in case of a downturn."

"Being a wholesale distributor," a second man writes, "rate cost factors are extremely important in any situation. We utilize rail LCL service where we can, but almost all railroads have voluntarily given this tonnage to other modes. I feel that, in a critical situation, railroads would suffer more because carload freight would be less, and they will not handle LCL."

(Continued on page 50A)

First 3,600-hp SD-45 diesels go to the GN

- **Road putting eight production units in fast-freight service.**
- **Two demonstrators recently crossed continent in record time.**

It was not just a typical new locomotive which was displayed in Seattle last week. The big orange and olive unit, formally unveiled by the Great Northern for civic leaders and shippers at its West Coast terminal, is the most powerful single-engine diesel-electric ever built. And GN was pointing out that it had just become the first railroad to acquire the 3,600-hp General Motors SD-45.

A few weeks before the GN ceremony in the Puget Sound city, a pair of SD-45 demonstrator units pulled out of the Northern Pacific's Auburn, Wash., yard about 20 miles south of Seattle on what turned out to be a record-setting transcontinental run. This pair, aggregating 7,200 horsepower and bearing GM and Electro-Motive Division markings, headed up over the Cascade Mountains with a fast freight.

● **Four-day run.** Just four days—actually 96 hours and 40 minutes—later, the two SD-45's rolled to a stop in the Jersey City, N.J., yard of the Erie Lackawanna. In addition to NP and E-L, the pair had traversed the Soo Line between St. Paul and Chicago, en route handling trains ranging from 3,000 to 6,500 tons. And they had averaged almost 35 mph, including stops, a coast-to-coast timing which EMD believes to be a speed record for freight trains.

It was just such performance which GN says is the reason for its acquisition of "new generation" locomotives—their ability to move heavier tonnages at faster, uniform speeds. In addition to its eight new SD-45 units, GN this month is taking delivery of six EMD SDP-40, 3,000-hp units and six General Electric U28B, 2,800-hp units. These new generation locomotives, ordered last year (RA, Oct. 18, 1965, p. 41), represent an investment of $5.2 million.

● **Car program, too.** At Seattle along with the SD-45, the railroad displayed one of its new freight-passenger service SDP-40 units and six pieces of new freight equipment, several of which were ordered at the same time as the new motive power. Among the freight cars were a Gunderson 90-ton woodchip gondola; a Pullman-Standard 4,740-cubic-foot covered hopper, a Thrall 90-ton bulkhead flat car, an International Car 30-foot caboose, a 50-foot wide-door box car and a 50-foot mechanical reefer.

GN's car program for this year, expected to cost almost $23 million, is to add 1,655 units. This total will up slightly from installations in 1965.

● **"Hustle muscle."** But it was the unusual capabilities of new motive power which were emphasized by GN and EMD spokesmen in Seattle. The railroad, already referring to its program of acquiring new motive power as adding "hustle muscle," reports that all eight of the SD-45 units are now in service.

B. B. Brownell, General Motors vice president and EMD general manager who was to attend the GN ceremony, has pointed out that while a new prime mover and transmission are involved in the SD-45, "a group of engineering test locomotives have accumulated over a million miles under every conceivable operating condition on railroads from coast to coast."

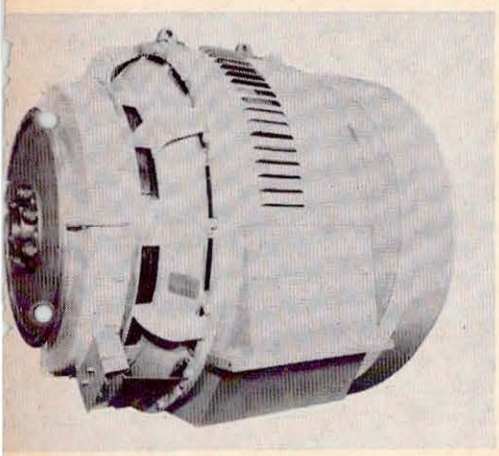
● **Member of new family.** It was just over a year ago (RA, June 7, 1965, p. 18) that Electro-Motive announced a complete new line of locomotives with more power in all models. Key to the higher ratings has been the larger-displacement diesel engine which the locomotive builder has described as being designed "to meet today's horsepower requirements and provide a solid base for horsepower increases in the future."

The SD-45 locomotive has a turbocharged 20-cylinder version of this 645 engine. The Model 645, with a cylinder bore of 9$\frac{1}{16}$ inches (compared with 8$\frac{1}{2}$ inches for the long-standard Model 567 engine) and stroke of 10 inches (unchanged from the 567), operates at 900 rpm top speed. The result with normal aspiration, for instance, is a rating of 2,000 horsepower for the 16-cylinder 645 (vs. 1,800 horsepower for the comparable 567) and 3,000 horsepower for the turbocharged 16-cylinder 645 (vs. 2,500 for the 567).

● **Without precedent.** There is no similar comparison which can be made with the turbocharged 20-cylinder 645 engine simply because EMD has never before turned out production diesels with more than 16 cylinders. But the 3,600-hp rating and the prime mover's reliability have been confirmed by thousands of hours of operation with prototype engines in test cells in the EMD laboratory at LaGrange, Ill.

And the 16-cylinder version has accumulated much service, not only in EMD's engineering prototype units but in a substantial number of production GP-40 and SDP-40 locomotives in regular operation. First units to be produced to fill an order were 50 GP-40's (RA, Jan. 24, p. 7) for the New York Central.

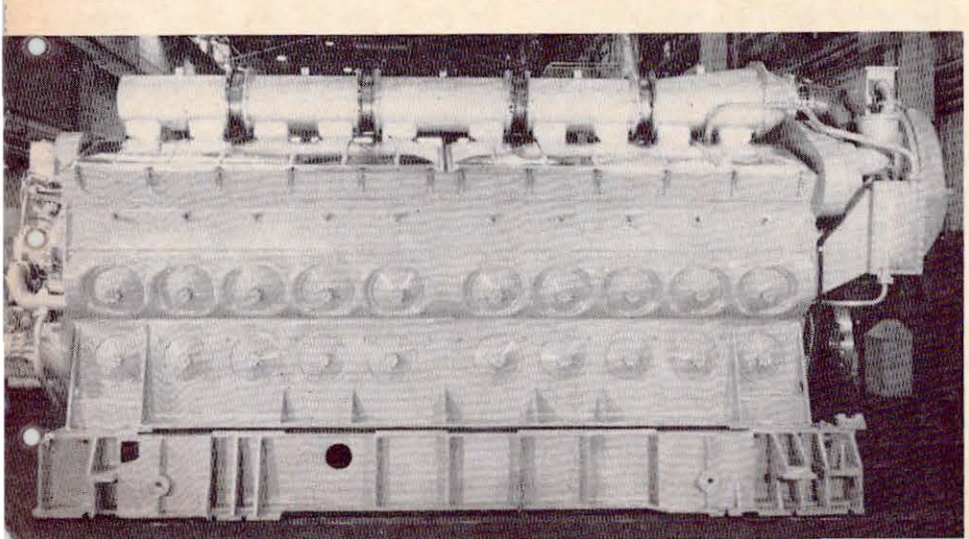
Coupled to the 20-cylinder engine,



DEMONSTRATOR UNITS (above) recently made coast-to-coast freight run averaging almost 35 mph.

ALTERNATOR, with its more compact configuration (left), is used in place of d-c main generator.

TWENTY-CYLINDER DIESEL (below), makes SD-45 highest rated single-engine locomotive.



literally and figuratively, is the AR-10 alternator which can produce about twice the energy of a d-c generator of equivalent dimensions. At ratings of 3,000-hp and upwards, EMD engineers explain, size limitations would have made it virtually impossible to use a conventional d-c generator to develop current for the traction motors. Along with the compactness of the alternator, it has reduced maintenance requirements because there are no commutator or brush replacements that loom large in operation of usual d-c generators. It can be controlled so that no transistion is necessary and motor shunting greatly reduced.

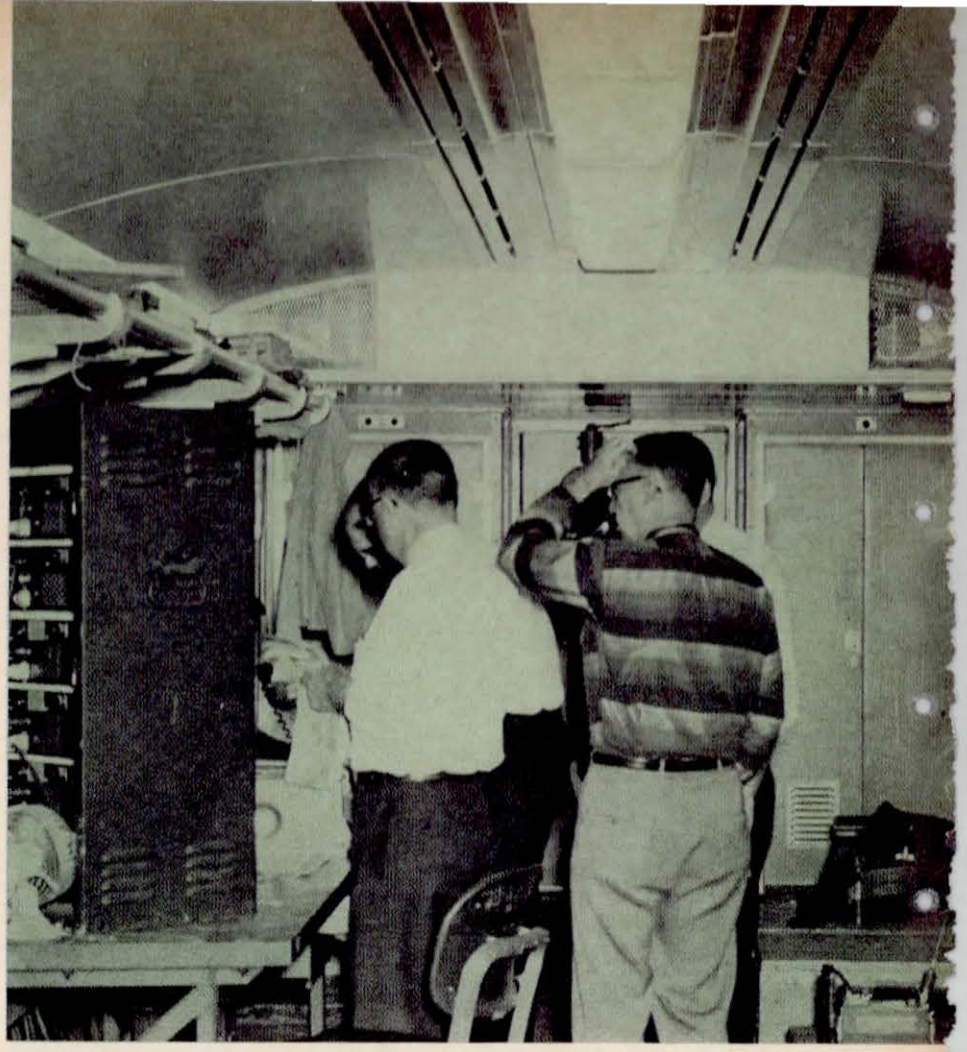
The a-c/d-c transmission is used in all the new EMD locomotives rated at 3,000 horsepower and higher. The AR-10 alternator has sufficient capacity to be used in any of them.

• **Role of electronics.** The relatively recent development of the high-power silicon rectifier, a semiconductor, makes possible the changing of the alternator's a-c output into d-c to be used by the SD-45's more conventional traction motors. The banks of rectifiers are mounted across the end of the alternator. All six axles of the locomotive are motorized with EMD D-77 motors.

A new silicon-controlled-rectifier (SCR) excitation system has a major role in the performance of locomotives fitted with the Model 645 engine. Along with the high capacity which had to be incorporated in the dynamic braking system, the regulation system has static devices in the overload protection which are designed to produce higher reliability and longer life.

The basic SD-45 weighs 360,000 pounds. The over-all length between to a total on-rail load of 393,000 pounds. The over-all length between coupler pulling faces is 65 feet 8 inches; height is 15 feet 6 inches. Each of the three-axle Flexicoil trucks has a wheel base of 13 feet 7 inches; truck center distance is 40 feet. The SD-45 fuel tank holds 4,000 gallons; sand boxes have a total capacity of 56 cubic feet.

• **Other models.** The SD-45 is but one of nine models using the 645 engine. All of the single-engine versions have now gone into production. The turbocharged 3,000-horsepower, 16-cylinder engine is used in the four-axle GP-40 and in the six-axle SD-40 and SDP-40. The normally aspirated 16-cylinder engine rated at 2,000 hp is used in the four-axle GP-38 and the six-axle SD-38. A 12-cylinder normally aspirated engine is the prime mover in the 1,500-hp, SW-1500 switcher and a similar 8-cylinder engine in the 1,000-hp, SW-1000. Still to be produced is the 6,000-hp DD-40 which will have two of the turbocharged 16-cylinder Model 645 engines. ■



MOBILE LABORATORY, the new AAR research car, has been instrumented to record large quantities of data from trains in motion. Already it has been used in studies of the requirements for high-speed train operation in the Northeast Corridor and for investigations of the derailing tendencies of high-capacity hopper cars.

AAR mechanical research covers a wide range

Chicago laboratory's projects, some of them long-term, are aimed at improving the operation of the car and locomotive fleets.

Larger cars, heavier axle loadings, higher speeds. Whether it be size, weight, velocity or virtually any other factor associated with today's railroad operations, it almost inevitably is of greater magnitude than was the case only a few years ago. Many of the problems confronting the AAR Research Department are problems of bigness . . . and frequently they are big problems, too.

Currently 17 major project areas involving cars and locomotives are being handled at the AAR Research Center in Chicago. The relation between track and equipment—complicated by longer and heavier freight cars—involves the mechanical and engineering research groups. Increasing attention is being given to the design of axles and wheels used under cars and locomotives.

• **Hotbox research.** Rated high among mechanical research assignments is the perennial hotbox problem on which the Center has expended several million dollars over the past dozen years. To prove that this expenditure has been worthwhile, W. M. Keller, vice president—research, cites current journal performance and points out that if today's bearings performed only as well as their predecessors did in 1956, it would be impossible to maintain the train schedules which are a competitive necessity.

For the entire year of 1965, U.S. and Canadian railroads produced an all-time high of 1,377,908 car-miles per hotbox setoff. The December 1965 performance of 1,743,020 miles per setoff for all railroads was the best ever. In December 1955, the figure was 522,444.

• **Further refinements.** AAR Research is continuing to appraise journal box components with the aim of still greater reliability. The so-called Hi-Hat solid journal bearing, already operating consistently with more than 2 million miles per failure, has been redesigned slightly so that it can do still better. Robert Byrne, director of mechanical research, reports that a number of the redesigned bearings are now undergoing service testing.

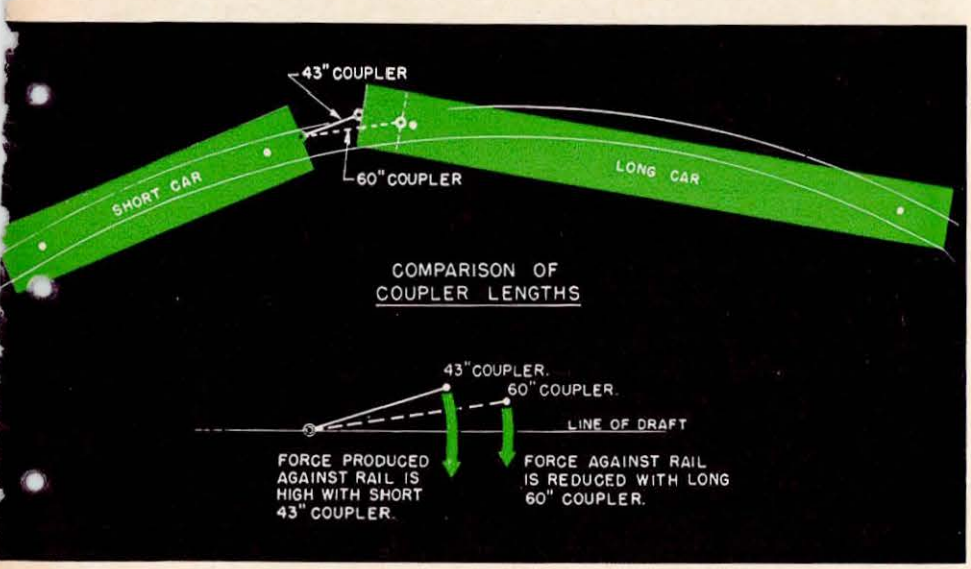
The foamed synthetics used as the cores of journal lubricators are being appraised more carefully. Premature aging of some of these materials has affected lubricator life; the AAR is seeking reliable tests to weed out unsatisfactory foam products.

Development of a continuous monitoring system for Journal-box temperatures has been assigned to the Illinois

IMPACT TESTING as a preliminary to the certification of long-travel underframe cushioning is proceeding at the AAR Research Center in Chicago.

17 PRIMARY PROJECTS

- Hotbox research, general
- Journal box lubricating materials
- Journal bearing development
- Axle research
- Relation between track and equipment
- Air brake systems on freight cars
- Nuclear energy for railroad operations
- Car impact studies
- Study of energy converter systems
- Automatic car identification systems
- Automatic brake inspection
- Automatic brake retainers
- Development of the stabilized truck
- Wheel design research
- Car design research, general
- Hotbox detector for continuous monitoring



COUPLER DESIGN is complicated by the growing use of long freight cars. High lateral forces may be reduced by using couplers with long shanks.

Institute of Technology by the Research Center. The project's objective is a low-cost apparatus which would warn of an overheated journal bearing as soon as it develops, sounding a warning in locomotive cab or caboose.

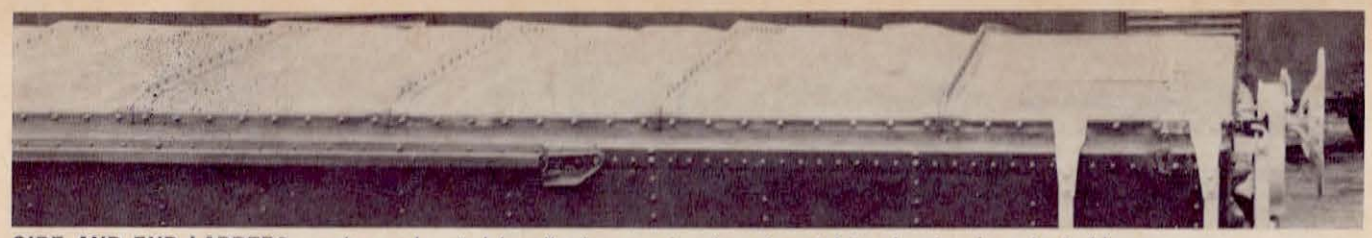
● **Research car.** Mobile testing, of increasing importance in analyzing today's equipment problems, can now be performed by the AAR with its own specially fitted research car. Already the car has been used as an instrument center for one phase of the Northeast Corridor high-speed train project. Currently, it is at Frankfort, Ky., on the Louisville & Nashville, where its radio telemetry equipment is monitoring stresses in the wheels and axles of a hopper car being used to investigate the tendency of high-capacity equipment to derail at relatively low speeds.

L&N has set up a test track near Frankfort on which cars are permitted to reach the point of derailing while the wheels are prevented from actually dropping from the rails. While truck arrangements have been altered so that the harmonic rocking of high-capacity hoppers can be controlled to avoid derailing, the wheel lift that is still experienced imposes severe stresses on wheels, axles, bearings and carbodies.

● **Lateral forces.** Tracking of long cars, investigated by the Research Center, showed that couplers 60 inches long were effective in reducing lateral forces in trucks on curves when the cars are under heavy drawbar buff or pull. Currently a theoretical study is being made of the relationship between truck-center distance, coupler length and the lateral forces on curves.

The relation between wheel load and wheel diameter continues under appraisal. Work now proceeding at the AAR laboratory by the engineering research group is establishing the effect of wheel diameter on the incidence of shelly rails. The production of shelly rails by wheel contact pressures is more frequent and more expensive than the shelling which occasionally develops in wheel treads. Tread defects are readily turned out in most cases; rail defects are much more complicated.

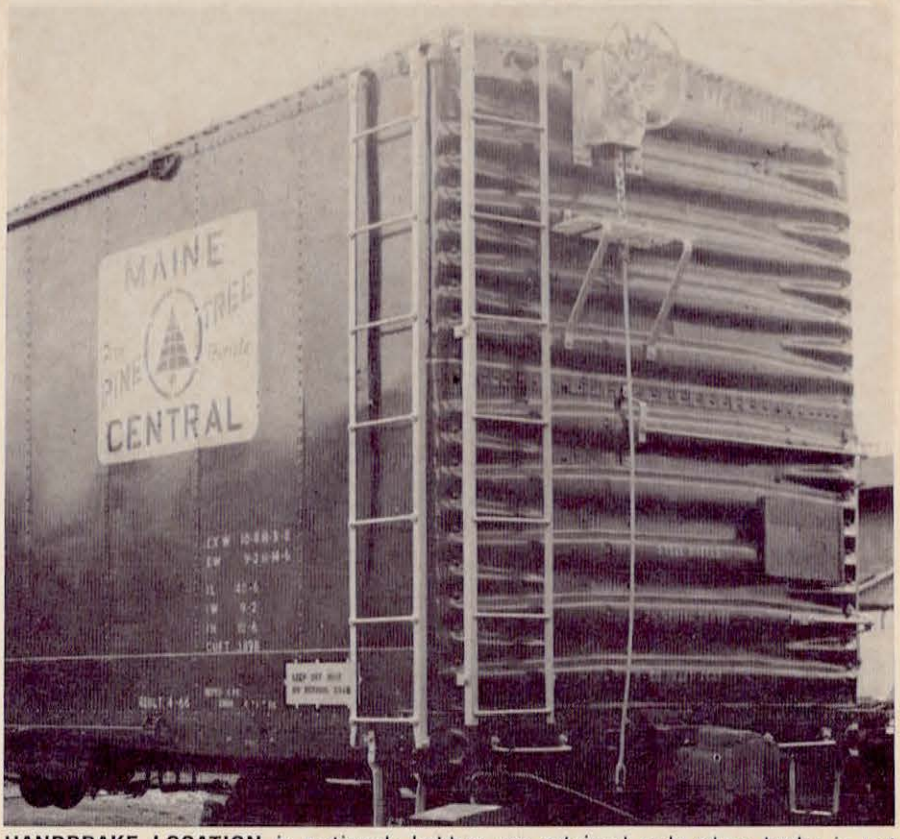
Continuing attention is being given to center plates of freight cars, the pivots about which trucks swivel. Hard steel liners are now mandatory in high-capacity cars. The Research Center says that improved swiveling of trucks will be a major factor in producing uniform "rollability" of freight cars. ■



SIDE AND END LADDERS reach unrelocated handbrake; running board and lateral extensions to ladders are gone.

MeC cars have no running boards

Paper-service box cars are rebuilt to conform with new ICC safety appliance regulations.



HANDBRAKE LOCATION is optional; ladders are retained only when brake is not moved to just above end sill as must be done on new reefers, box and stock cars.

Box car running boards are not only on their way out—they are gone already from 200 rebuilt Maine Central box cars which have been rolling off the production tracks of Chicago Freight Car Co. To these refurbished MeC paper haulers goes the distinction of being the first existing box cars to be rebuilt without running boards and with all the other changes required by the recent ICC order revising the U.S. Safety Appliance Standards (RA, March 21, p. 11).

● **An opportune moment.** Chicago Freight Car was engaged in development of the prototype from the MeC rebuilding program when the ICC served Order 34468 on March 1. This order, covering new and rebuilt house cars without roof hatches which had not previously been exempted from the running board requirement, was effective April 1.

Maine Central's R. E. Baker, vice president, and R. F. Dole, chief mechanical officer, were ready to have the paper cars rebuilt in accordance with the ICC directive. All hatch-less house cars are to comply by April 1, 1974. While the ICC order was quite specific regarding the locations of ladders, hand brake, brake step and handholds on new house cars, there was some confusion about the proper installations on existing equipment.

● **ICC cooperates.** Chicago Freight Car, working directly with representatives from the ICC Bureau of Safety and Service, made safety appliance applications to the sample MeC car. It developed that many of the problems facing owners of existing box cars, some of which could not be foreseen in preparing the ICC order, were resolved right on the MeC 8800. By March 25 the car was equipped to the satisfaction of ICC men who inspected it.

There are actually three basic classifications of house cars (box, stock and refrigerator cars are designated as "house" cars by ICC) in the new standards:

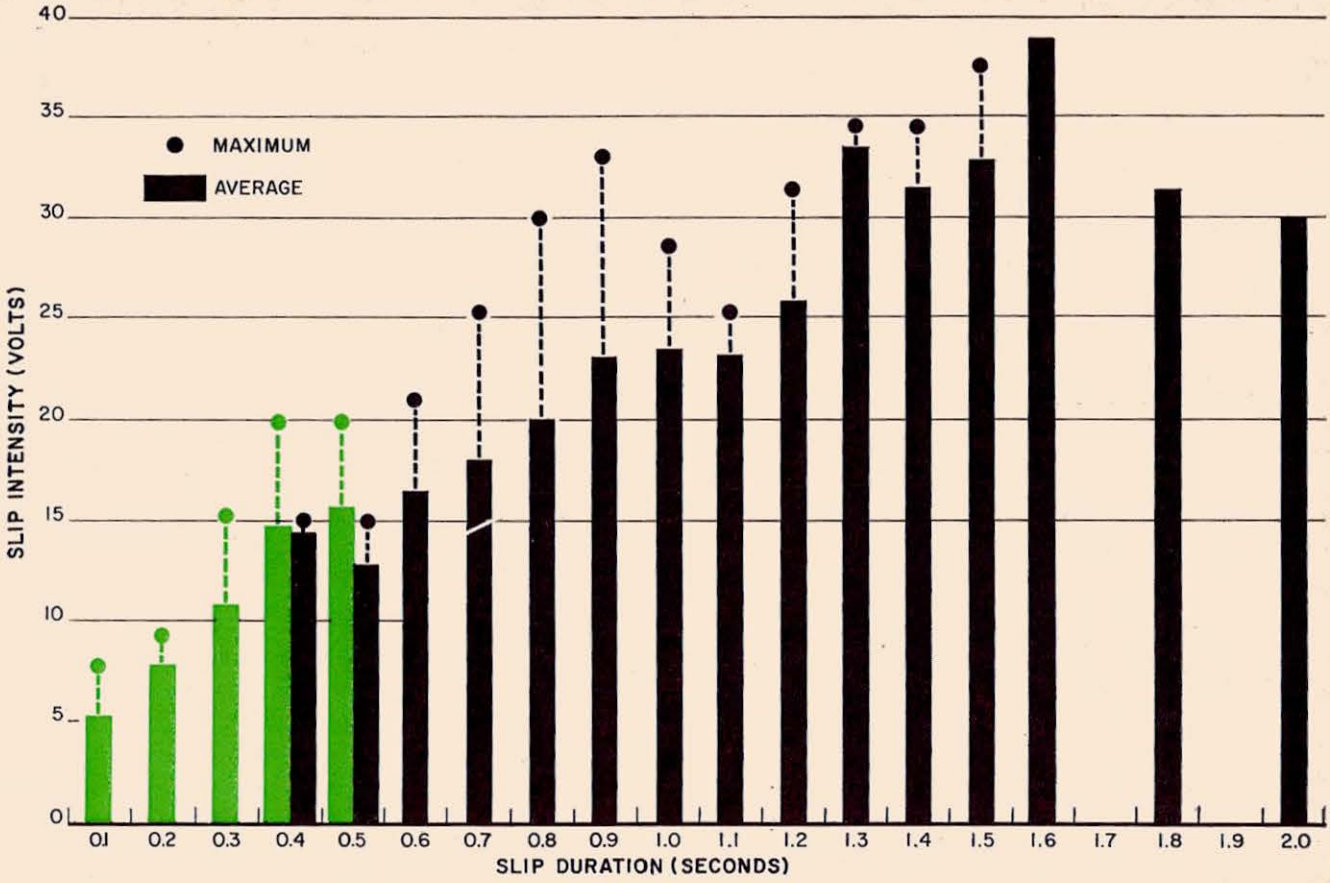
—Cars without roof hatches built before April 1, 1966, or placed in service prior to Oct. 1, 1966, which must conform to the new regulations by April 1, 1974;

—Cars without roof hatches built after April 1, 1966, or placed in service after Oct. 1, 1966, all of which must conform to new standards as built;

—Cars with roof hatches.

● **New cars no problem.** Interpretation of the revised requirements as they affect new box and other house cars presents no particular difficulty. New cars are to duplicate closely the ICC standards for Hi-Cube box cars (with roof 16 feet 10 inches, or more, above the rail) which were exempted from the running board requirement in 1964. Safety appliance application includes the hand brake just above the end sill, end platforms over the couplers at each end of the car with handholds above them, and four handholds over the sill step at each corner of the car. Roof-hatch cars are to have running boards and end ladders only.

Existing cars may have the hand brake relocated. Optionally, it may remain in its original location as was done on the MeC cars; when this is done the adjacent full-height side and end ladders are left as they were. Ladders at the other end are reduced to four-rung height. There must be a warning beside the ladder that the car has no running board. A transverse handhold must be placed across the end of the car. ■



BUILDER'S DESIGN	0	0	0	2	7	14	21	19	13	7	4	3	2	4	3	1	0	1	0	1
B & O DESIGN	11	28	33	44	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NUMBER OF SLIPS

WHEEL-SLIP CONTROL developed by B&O (green) is faster acting than builder's arrangement (black). Because slips are detected at their inception and immediately suppressed, B&O design prevented those of long duration.

B&O comes to grip with wheel slip

New control concept is reducing the duration and severity of locomotive slipping; increased tonnage ratings are possible.

Locomotive wheel slip has always been a critical factor in freight-train operation. How often a locomotive slips and how long the slips last usually determine a locomotive's tonnage-handling ability on ruling grades. The Baltimore & Ohio has just designed a wheel-slip control for its diesel-electric locomotives which it is finding can improve substantially their operation on hills.

The B&O adhesion control, according to the railroad, has consistently demonstrated its superiority to existing arrangements. The control regularly responds more than twice as fast as other arrangements, reducing electrical and mechanical damage to locomotive components while simultaneously shortening interruptions in tractive effort.

● **Less wheel work.** At a given speed, the electrical currents flowing through each of the four or six traction motors of a diesel-electric locomotive are approximately equal. It is by detecting the current variation which any slipping axle produces that the normal wheel slip control system is actuated.

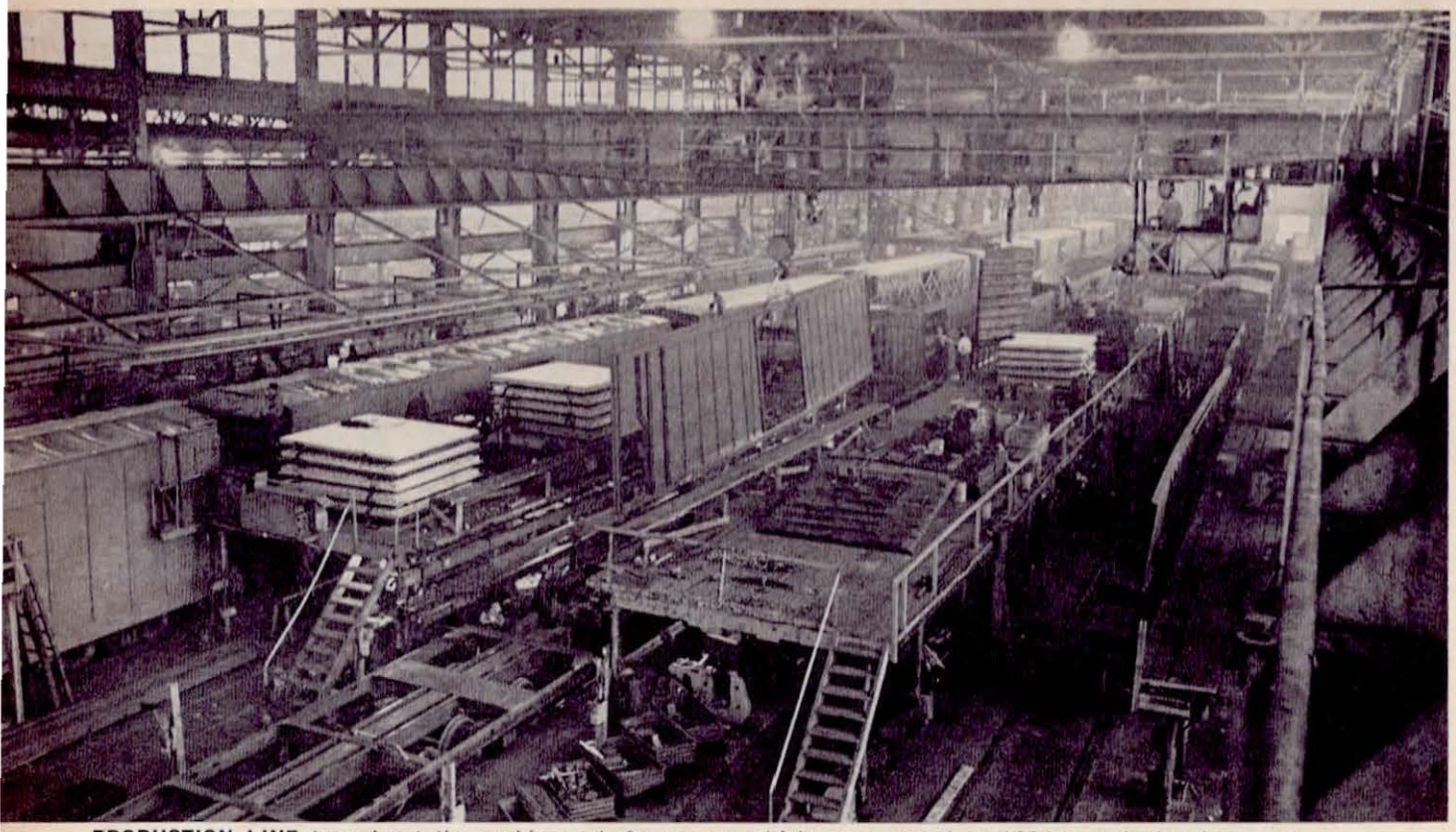
Any significant variation in wheel size would, in effect, produce the same response as a slipping axle because the motor driving those wheels would steadily draw a different current. This phenomenon makes it necessary to maintain all wheels on a diesel-electric locomotive within close tolerances.

The new B&O system makes unnecessary the turning of wheels only to match their diameters with the others on the locomotive where used.

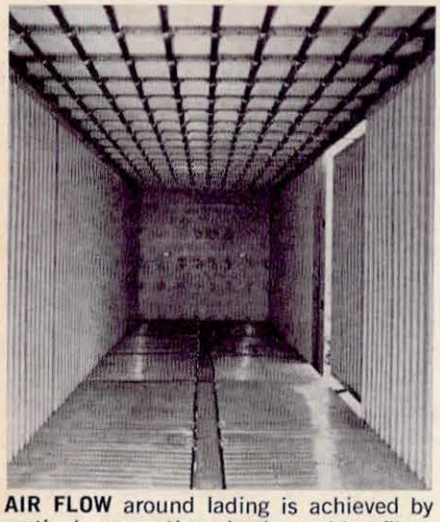
● **Rate-of-change system.** Basis of B&O's wheel-slip detection is the rate of change of traction motor current rather than the comparison of the current values. With rate-of-change detection and correction, the majority of slips are sensed and corrected within three-tenths of a second, generally before conventional slip controls act.

It has sometimes been argued that the vast majority of low amplitude slips would be self correcting on most grades in clear, dry weather. One set of instrumented tests conducted by B&O electrical engineers showed a conventional system permitting an axle to slip for 1½ minutes at a rate lower than required to pick up the slip relay. "Under 32½ tons per axle pressure, this would result in considerable wheel wear," one of them observed.

(Continued on page 91)



PRODUCTION LINE turned out the cushion-underframe cars which are mounted on 100-ton, roller-bearing trucks.



AIR FLOW around lading is achieved by vertical corrugations in the molded fiberglass lining panels. Air enters 54½-foot lading space through perforated ceiling and returns to evaporator under the aluminum floor racks.

POLYURETHANE foamed-in-place insulation completely encapsulates the 4,428-cu-ft lading space of the car. Burlington has fully equipped facility for applying the organic compound, having used it successfully since 1963.

Kingsize reefers please shippers

Burlington built 200 big cars at its shop in Havelock, Neb.

Kingsize loads travel in new kingsize cars on the Burlington. And the cars rate high praise from shippers. The road's new 80-ton, 60-ft mechanical refrigerator cars are said to be the largest of their kind ever built.

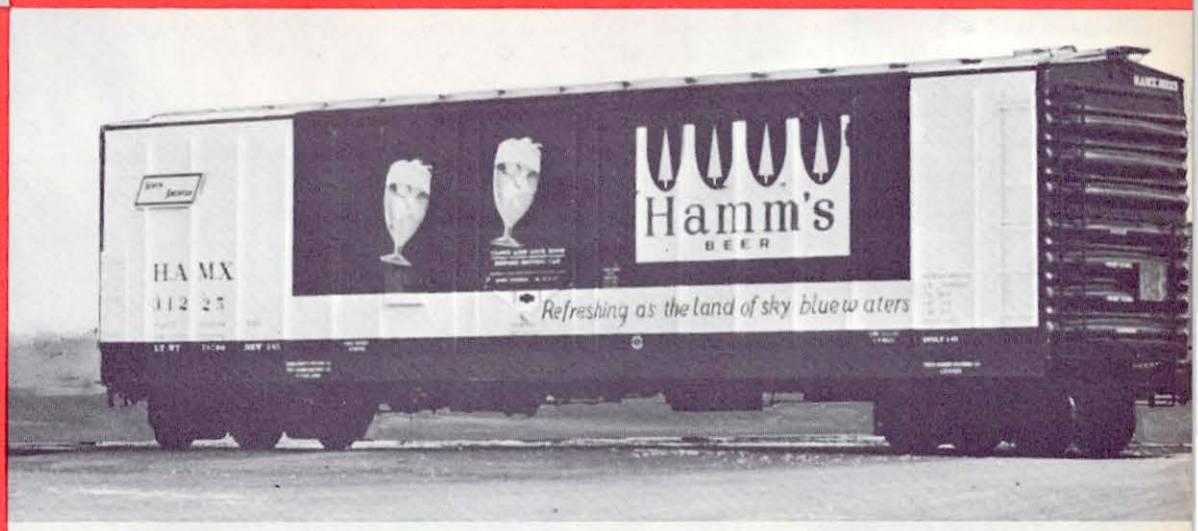
Each meat-rail car is designed to hold 100,000 pounds of hanging beef and an additional 25,000 pounds or more of boxed meat. Cars with load dividers have carried many 140,000-pound loads. A recent shipment of frozen peaches was 152,762 pounds.

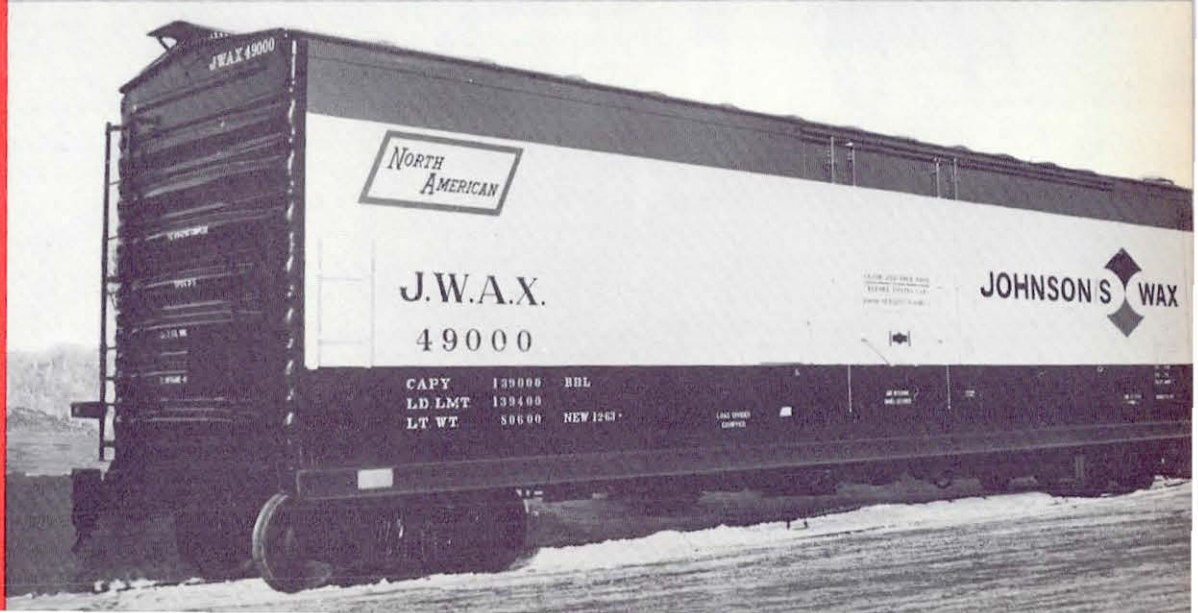
• **Built at Havelock.** The two hundred 4,428-cubic-foot cars, the first one hundred of which were equipped with meat rails and the balance with

(Continued on page 47)

Circle 10 on reader service card ▶

Over 3,000 void-free cars equipped with LANDRETH Pre-molded Urethane foam Panels*





Patent No. 3,226,899.

Reduce labor costs with easy-to-install LANDRETH Pre-molded Urethane foam Panels

Landreth continues to pioneer new equipment and systems for the transportation industry. Landreth's experienced engineers have dedicated over 60 years of service to the railroads as well as to the research and development of quality, labor-saving, and profit-making systems and products.

Our modern plants operating under controlled laboratory conditions, supervised by trained engineering specialists to insure the best possible insulation to suit your custom needs.

Ten foam machines, equipped to provide uniform volume and temperature control of the feed streams insure fast and efficient production.

Now you can free capital that would normally be invested in special facilities, research laboratories, engineering, and labor.

How to reduce costs and increase efficiency

1 Workmen lowering end panel into place. Panels are moved into production line on freight cars and lifted into cars on cranes.

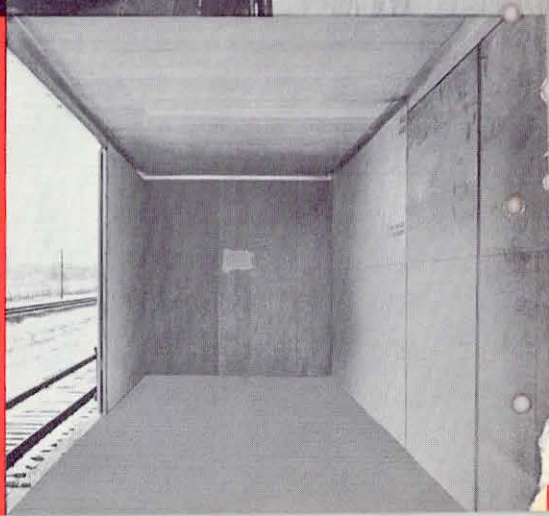
2 Workmen lowering side panel into place.

3 Workmen fitting side panels into place. Only 14 panels per car—panels are pre-trimmed, complete and ready to bolt into place for the sides, ends, ceiling, floor, and door.

4 Workmen fastening "Nelson" stud to outside post. Insulation thickness is reduced by ½ over conventional insulation materials.

5 Workmen inserting attaching device which when tightened, secures panel to side of car. This effective fastening system provides fastening without the normally associated heat loss.

6 Finished car. All joints foamed to insure a complete air-tight car.



Landreth panels increase insulation efficiency and cut costs

The new Landreth Pre-Molded Urethane Foam Panel enables railroads and car builders to build a better car faster and with less man hours in their shops.

The new Landreth system enables the builder to provide a Urethane Foam car without the necessity of installing special machinery and costly facilities.

Landreth Pre-molded URETHANE foam Panels engineered and proven best by test

The Inside Story of Budd Report #2238

The Landreth Insulated Car equipped with Landreth's Pre-Molded Urethane Foam Panels has just undergone exhaustive tests. After six months of road tests, the car was tested in The Budd Company testing laboratories in Philadelphia.

Here are the startling results from the Budd Laboratory's report.

The car constructed with the Landreth Pre-Molded Urethane Foam Panels was to be tested against two other cars constructed with Urethane Foam block. All the cars had been previously road tested for six months or longer.

The Landreth equipped car had absolutely no air leakage, no hot spots, and *no voids in the foam.* In addition, at 100 degrees differential, the car built with the Urethane Foam block had a BTU average of 143 BTU's per hour. The car equipped with the Landreth Pre-Molded Urethane Foam Panels also at 100 degrees differential and tested under the exact conditions, showed an average of just 93 BTU's per hour.

The Landreth Insulated Car was at least 50% more efficient than the car constructed with foam block. Conclusive proof that the Landreth Pre-Molded Urethane Foam Panel—is "Best by Test"!

Reduce labor costs with easy-to-install Landreth pre-molded Urethane foam panels*

Landreth Pre-Molded Urethane Foam Panels provide a lower K factor, as low as 0.11 (BTU's/sq. ft./hr./°F/in.) at 70 degrees as compared to 0.23 for conventional insulation. Over 90% of Urethane cells are closed. Thus, locking out moisture.

Check these features that make LANDRETH pre-molded Urethane foam panels*— best by test!

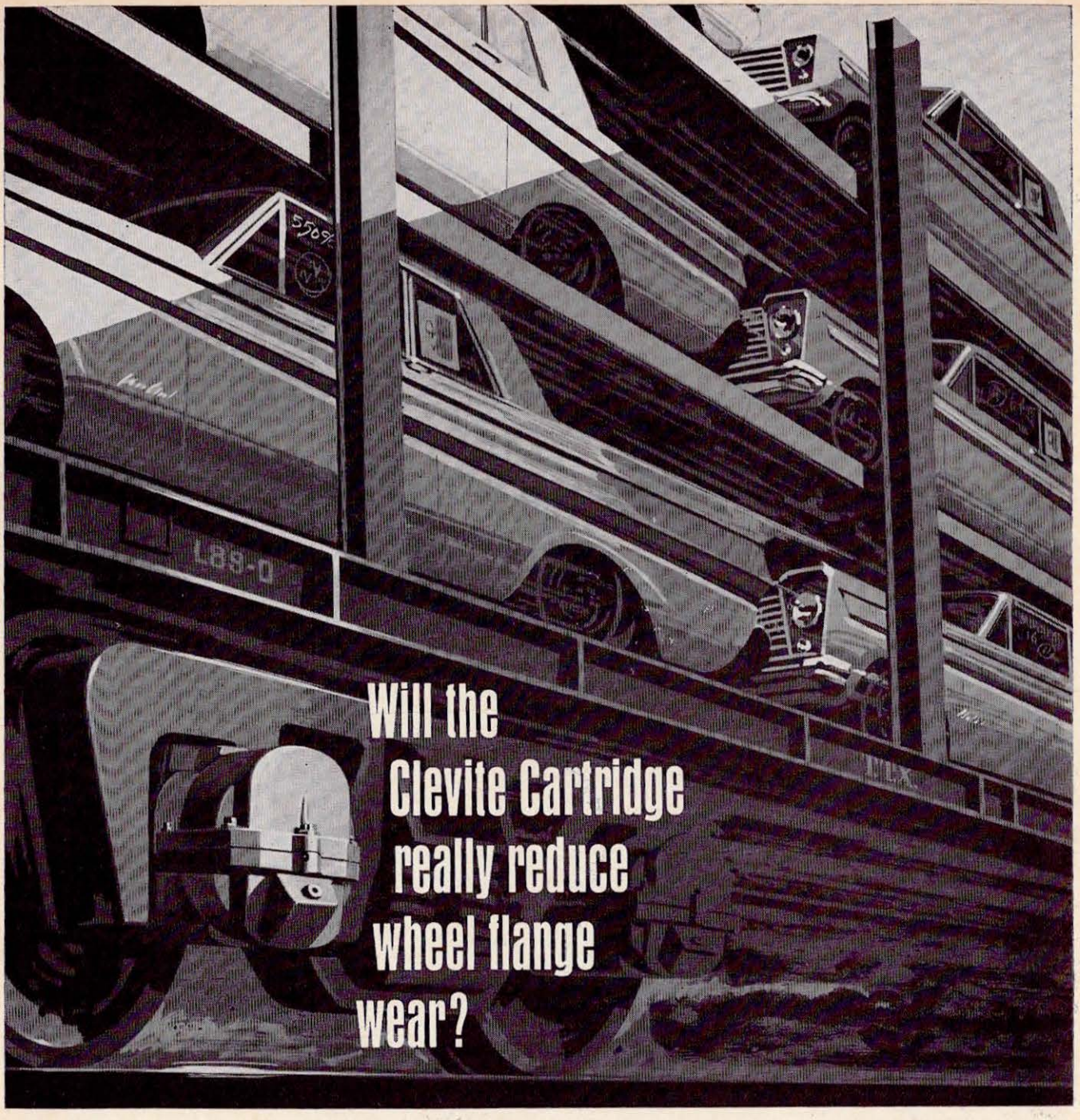
- ★ No Air Infiltration
- ★ No Localized Hot Spots
- ★ Non-Burning Foam
- ★ Easy Repairs
- ★ Seamless Vapor Barrier
- ★ Greater Thermal Efficiency
- ★ Thinner Walls
- ★ Completely Pre-Fabricated
- ★ Guarantee No Voids
- ★ All Joints Foamed
- ★ No Moisture Absorbtion
- ★ Odor Free and Non-Toxic
- ★ Fungus and Rot Proof
- ★ Added Structural Rigidity
- ★ Improves With Age—Does Not Deteriorate
- ★ Fire Proof
- ★ Does Not Split or Settle From Road Vibration or Temperature Change

Highest quality controlled Urethane material on the market today

Patent No. 3,226,899.

Landreth INDUSTRIES INC

LANDRETH INDUSTRIES, INC.
2100 Greenwood Avenue • Evanston, Illinois • Phone: 328-2062



Trailer Train is finding out.

Recently Trailer Train installed 70 car sets of journal bearings on 60-foot flat cars. This is in addition to 57 Clevite-equipped cars that have been on the road up to 2 years.

Like many railroaders, Trailer Train operators believe Clevite's lateral motion may prolong wheel life and extend service time between wheel turnings.

And when it comes to wheel lift-off (high center-of-gravity cars tend to behave this way under certain conditions) Clevite's controlled lateral motion provides the necessary truck freedom to minimize this problem.

If your Road is not familiar with Clevite, we should talk things over. Because the Clevite cartridge can easily save you money over the long haul.

For information, write Clevite Corporation, Cleveland Graphite Bronze Division, Cleveland, Ohio 44110.

CLEVITE

Circle 11 on reader service card

EXPERIENCE

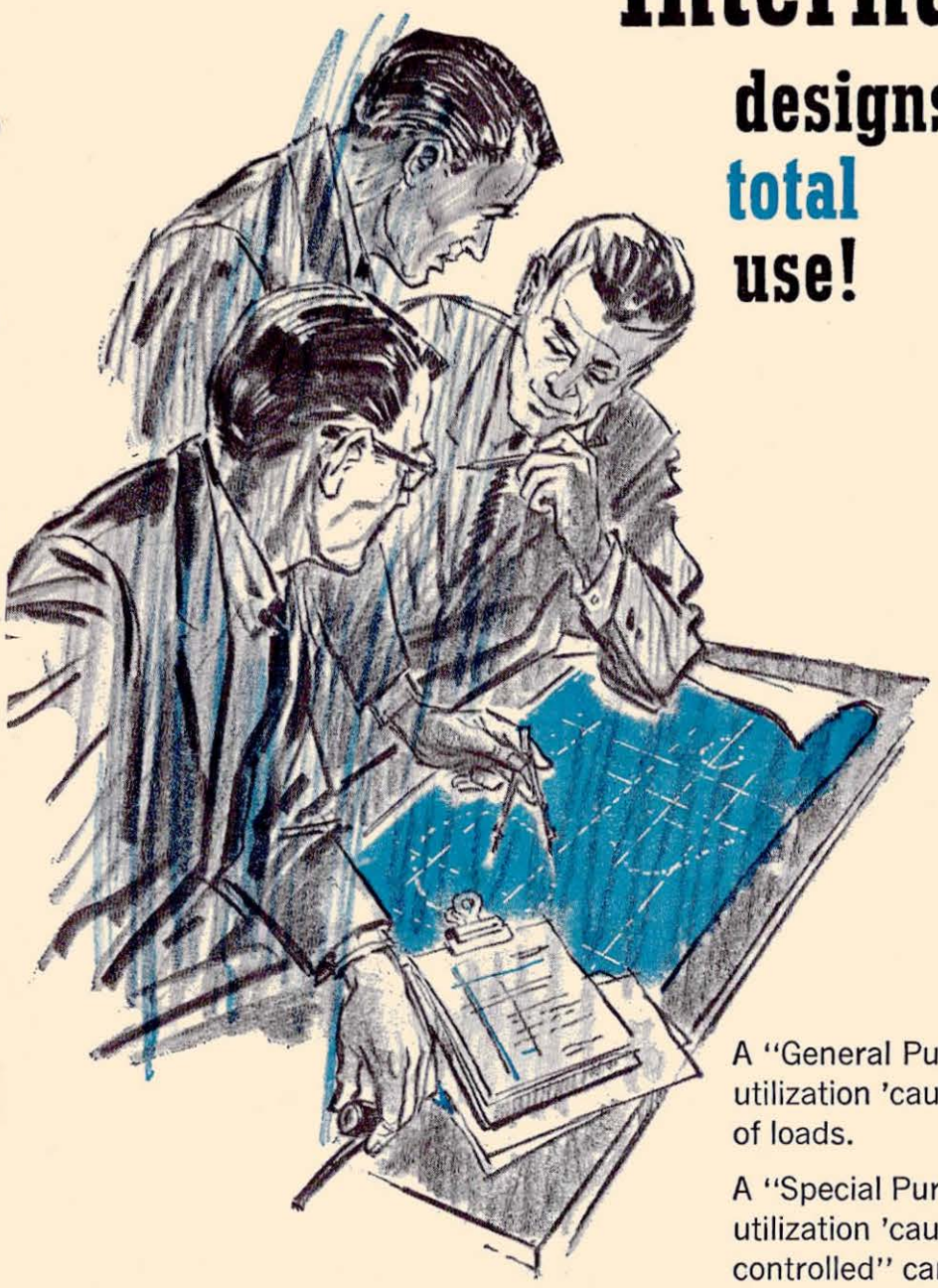
A PARTIAL LIST OF KEYSTONE SHOCK CONTROL USERS

Alaska Railroad
American Colloid Corporation
American Refrigerator Transit
Atlantic Coast Line R.R. Co.
A.T. & SF Railway Company
Baltimore & Ohio Railroad Co.
Canadian National Railway
Central of Georgia Ry. Co.
Chesapeake & Ohio Rwy. Co.
Chicago, Burlington & Quincy R.R.
Chicago & Eastern Illinois R.R.
Chicago Great Western Railway Co.
Chicago, Milwaukee, St. Paul & Pacific R.R.
Chicago & Northwestern Rwy.
Chicago, Rock Island & Pacific R.R.
Denver & Rio Grande Western R.R. Co.
Detroit, Toledo & Ironton R.R.
Elgin, Joliet & Eastern R.R.
Erie, Lackawanna Railroad Co.
Fruit Growers Express Company
General American Transportation Corp.
Grand Trunk Western R.R. Co.
Green Bay & Western Railroad
Gulf Mobile & Ohio Railroad Co.
Illinois Central Railroad
Illinois Terminal R.R. Co.
Kansas City Southern Railway
Lehigh Valley R.R. Co.
Louisville & Nashville R.R. Co.
Maine Central Railroad Company
Minneapolis, Northfield & Southern Ry.
Missouri Export R.R.
Missouri-Kansas-Texas Railroad Co.
Missouri Pacific Railroad Co.
Monon Railroad Company
New York Central Railroad
New York, Chicago & St. Louis
Norfolk and Western R.R.
North American Car Corp.
Northern Pacific Railway Co.
Pacific Fruit Express
Pennsylvania Railroad Co.
Pittsburgh & Lake Erie Railroad
Reading Company
Seaboard Air Line Railroad Co.
St. Louis & Southwestern Rwy. Co.
St. Louis-San Francisco Rwy.
Soo Line Railroad Company
Southern Pacific Co.
Southern Railroad
Texas & Pacific Railroad Co.
Union Pacific
Wabash Railroad Company
Western Pacific Railroad Co.

KEYSTONE RAILWAY EQUIPMENT COMPANY

General Offices: 310 South Michigan Avenue — Chicago, Ill. 60604
Manufacturing: Camp Hill, Pennsylvania

International designs to total use!



A "General Purpose" car gets more **carrier** utilization 'cause it can handle more **kinds** of loads.

A "Special Purpose" car gets full **shipper** utilization 'cause it's usually an "assigned-controlled" car.

International Steel designs components which satisfy the needs of both—as close to **"total** utilization" as one car can get!

And **"Maximum Revenue"** from a car depends upon maximum utilization which depends upon **total component** adaptation to **any** utilization.

*"still **10** years ahead in functional design"*

International Steel Co. RAILROAD DIVISION
EVANSVILLE, INDIANA 47707

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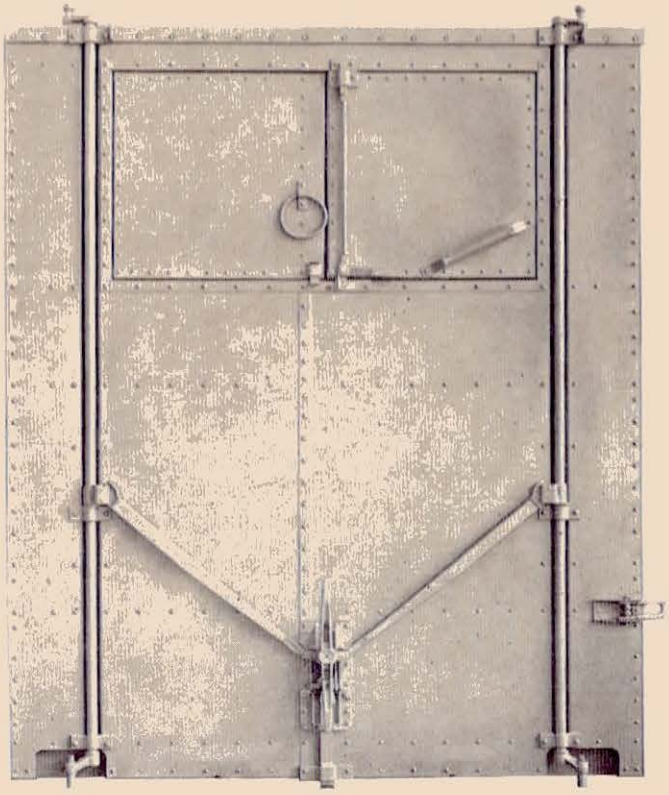
TOTAL



UTILIZATION

With Youngstown's Grain Access Flush Doors, your car is ready for any type box car service. You can save the $18,000,000 a year that is paid by North American railroads in grain and feed loss claims. Save additional millions in Grain Door and coopering costs. **When** you stop to think of it, can you really afford any other type of Car?

YOUNGSTOWN STEEL DOOR CO.

CAMEL SALES COMPANY • CAMEL COMPANY LIMITED

- Cleveland
- Chicago
- Youngstown
- Hammond

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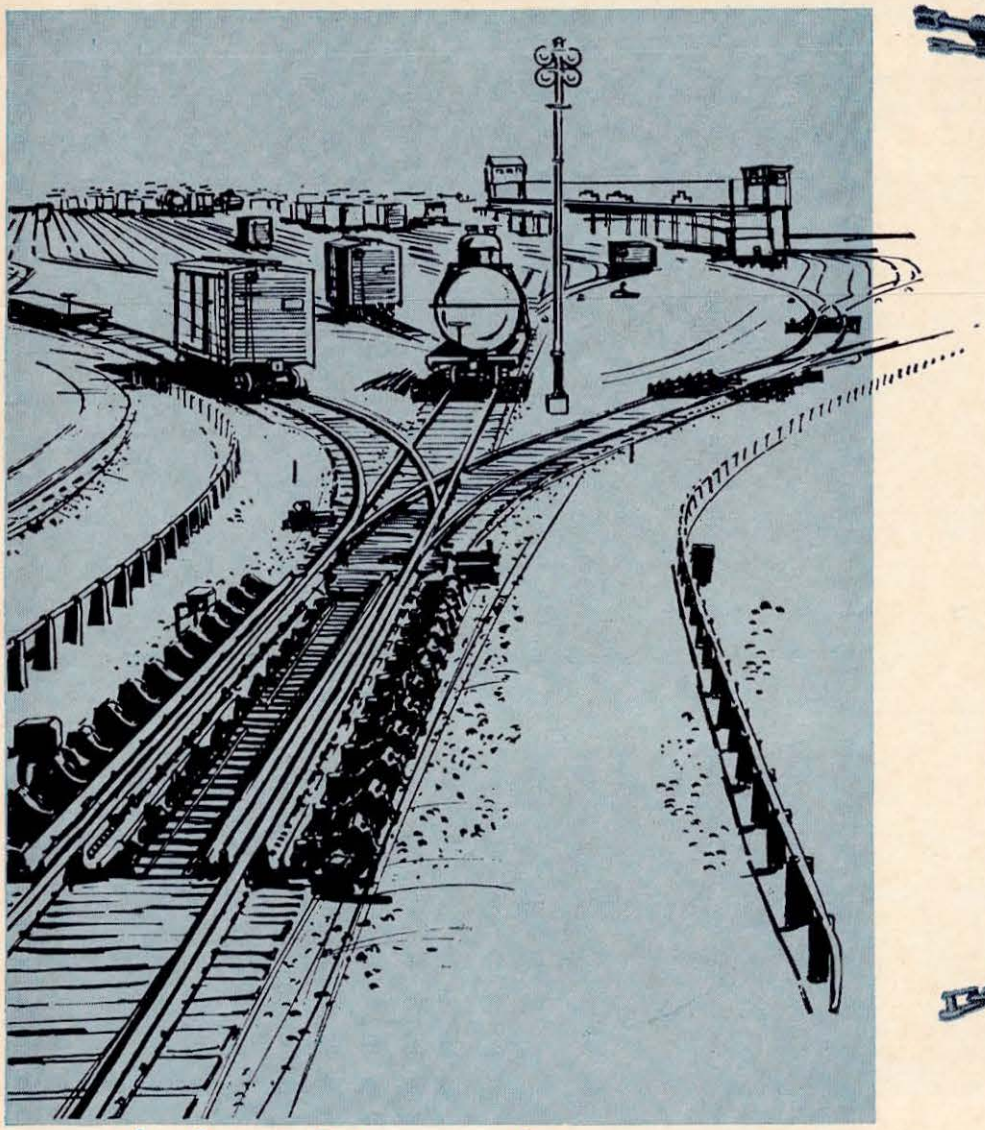
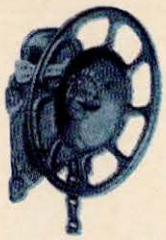
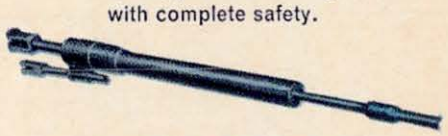
BRAKING IS *Universal*®

Universal brakes and brake adjusters have been designed to meet every car and braking requirement. Whichever Universal braking device meets your particular needs, you can be assured of safety, dependability and durability.





TWO-WAY QUICK RELEASE NON-SPIN HAND BRAKE
Quick, positive braking action with complete safety.



AUTOMATIC TWO-WAY BRAKE ADJUSTER
Proper piston travel is always maintained.

MULTI-POWER BRAKE WITH DROP SHAFT
Flexible combinations to meet your requirements.

THIN TYPE PUMP HANDLE BRAKE 7530
Meets clearance problems of longer and wider deck flat cars. Quick release, easy operation.

BRAKE ADJUSTER, ROTARY TYPE
Manually operated, rugged and dependable. Maintenance-free; original cost economical.

specify for safety-specify ***Universal***®

UNIVERSAL RAILWAY DEVICES COMPANY

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CANADIAN CARDWELL CO. LTD., MONTREAL 2, QUEBEC

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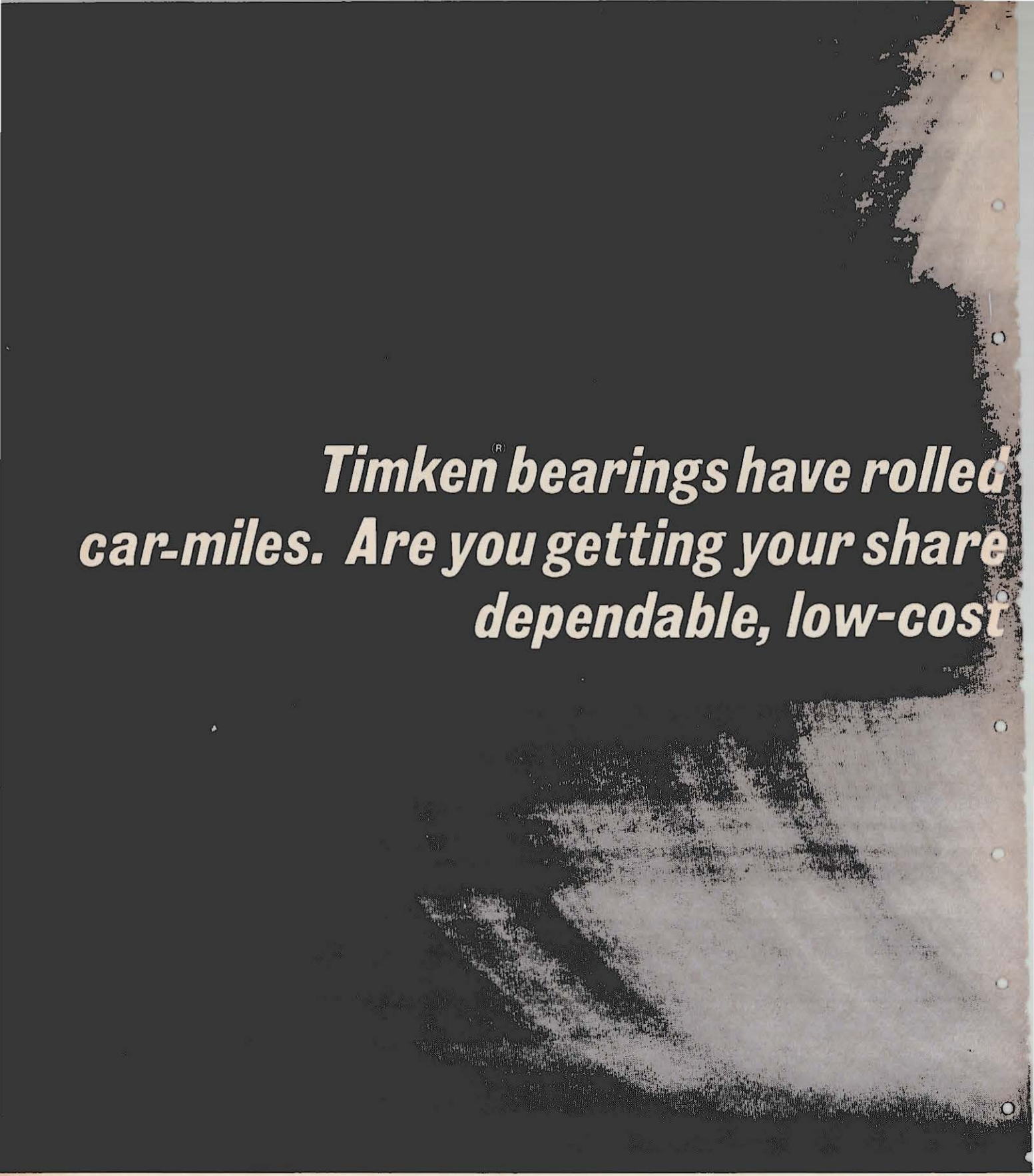
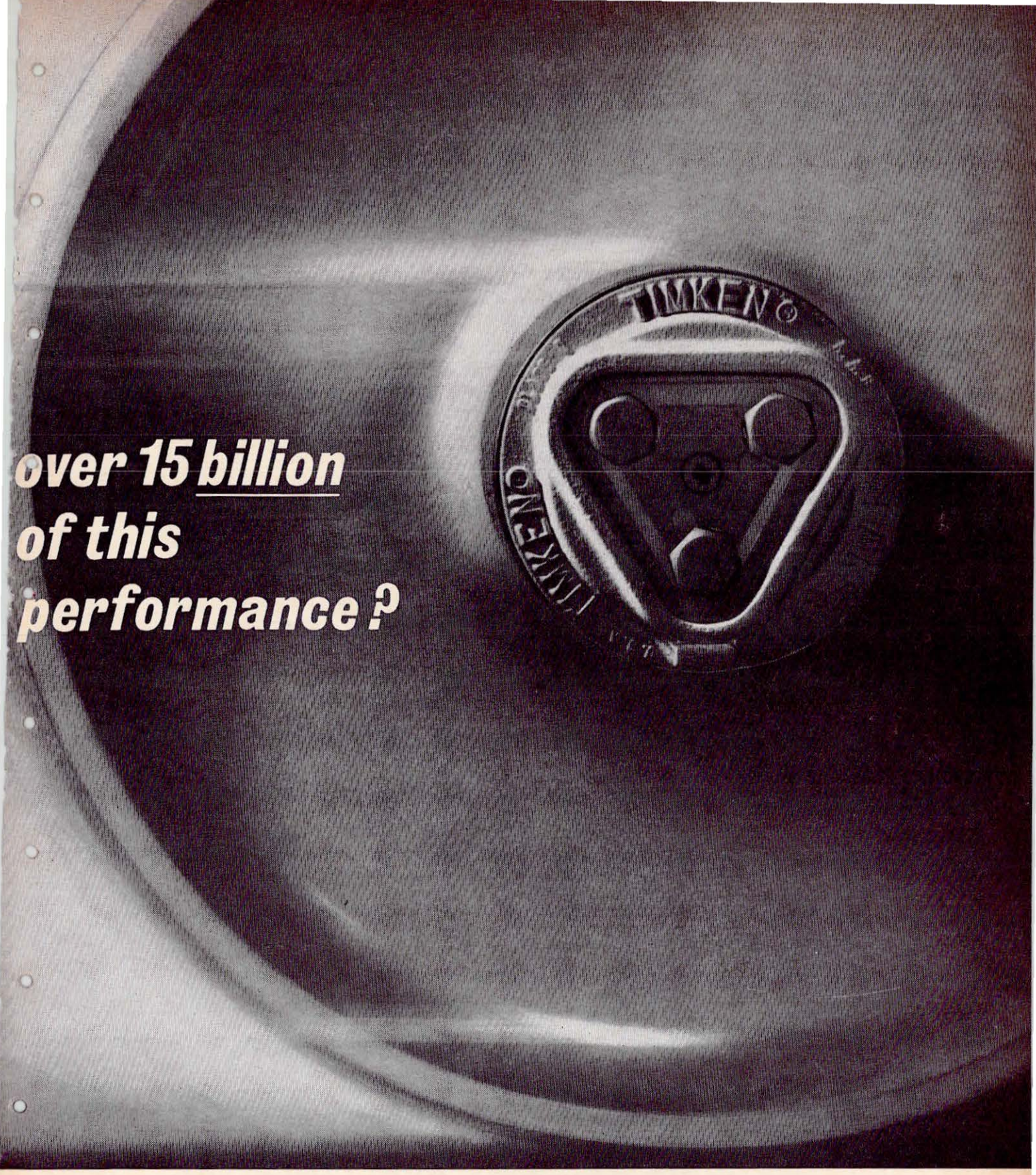


Timken® bearings have rolled car-miles. Are you getting your share dependable, low-cost

Fifteen billion *anything* is big. Timken® "AP" tapered roller bearings have rolled these car-miles *in actual service* on every major railroad in the U.S. and Canada. These are the miles that count—the hard and sweaty miles, after the clinical testing reports are in.

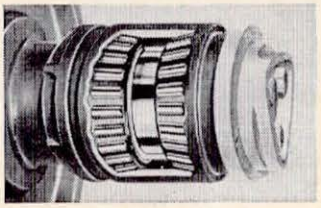
If you keep performance records, you can see for yourself. Timken "AP" bearings give you more life and more mileage with less maintenance. They're a good investment for low-mileage cars, too—especially if you have to transfer a low-mileage car to a long-haul assignment.



over 15 billion of this performance?

If you're not getting your share of this astronomical track record, you're hereby invited. Why not talk to your Timken bearing sales engineer soon? The Timken Roller Bearing Company, Canton, Ohio. Makers of tapered roller bearings, fine alloy steel and removable rock bits.

QUALITY TURNS ON HEAVY DUTY



TIMKEN®
TAPERED ROLLER
BEARINGS

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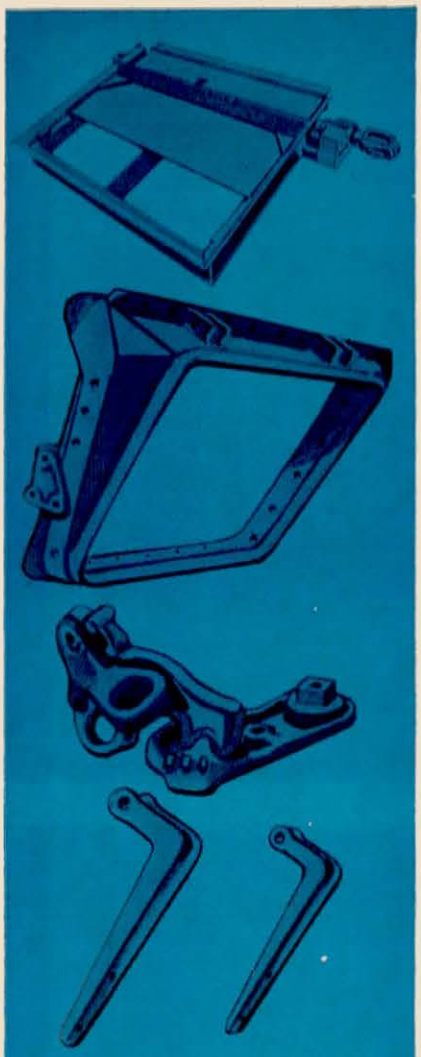

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THE WINE RAILWAY APPLIANCE CO.

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MEMBER

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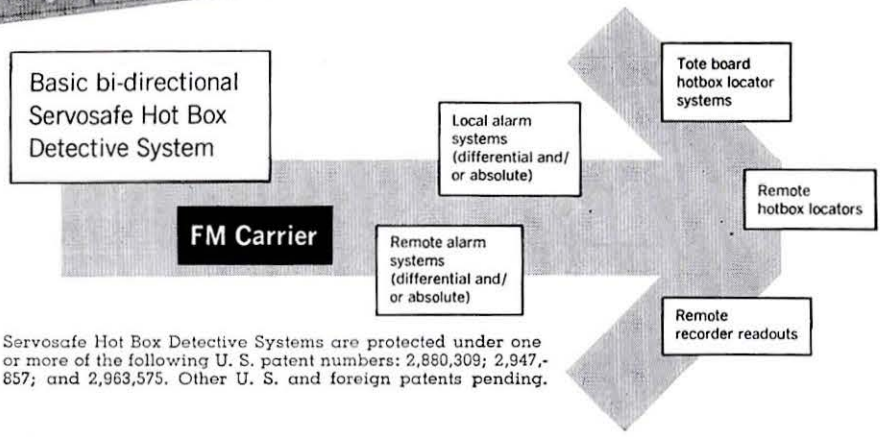
new FM carrier


Basic bi-directional Servosafe Hot Box Detective System
FM Carrier
Local alarm systems (differential and/or absolute)
Remote alarm systems (differential and/or absolute)
Tote board hotbox locator systems
Remote hotbox locators
Remote recorder readouts

Servosafe Hot Box Detective Systems are protected under one or more of the following U. S. patent numbers: 2,880,309; 2,947,857; and 2,963,575. Other U. S. and foreign patents pending.

Joins SERVOSAFE System

Interfacing problems? A thing of the past with our new FM Carrier System. It's specially designed for high fidelity data transfer from the Servosafe® Hot Box Detective to remote recorders, alarms and axle locators.

The system operates over a narrow bandwidth (only 170 cps standard telegraph spacing), and is used to transmit both digital and analog data. Pulse duration modulation with frequency shift produces accurate signal transmission. Virtually any type of transmission link may be used, including leased voice circuits. Servo's low-noise FM Carrier provides unusual flexibility and long trouble-free service, even under adverse weather conditions.

Our new FM Carrier is adaptable to your present as well as future hotbox detection requirements. We will be glad to assume total system responsibility to assure maximum accuracy and reliability from your Servosafe installation.

Write or phone for our new brochure on the Servosig® FM Carrier System. Railroad Products Division, Department RA-6, 111 New South Road, Hicksville, L. I., New York 11802. Phone: (516) 938-9700.

SCA servo Corporation of America

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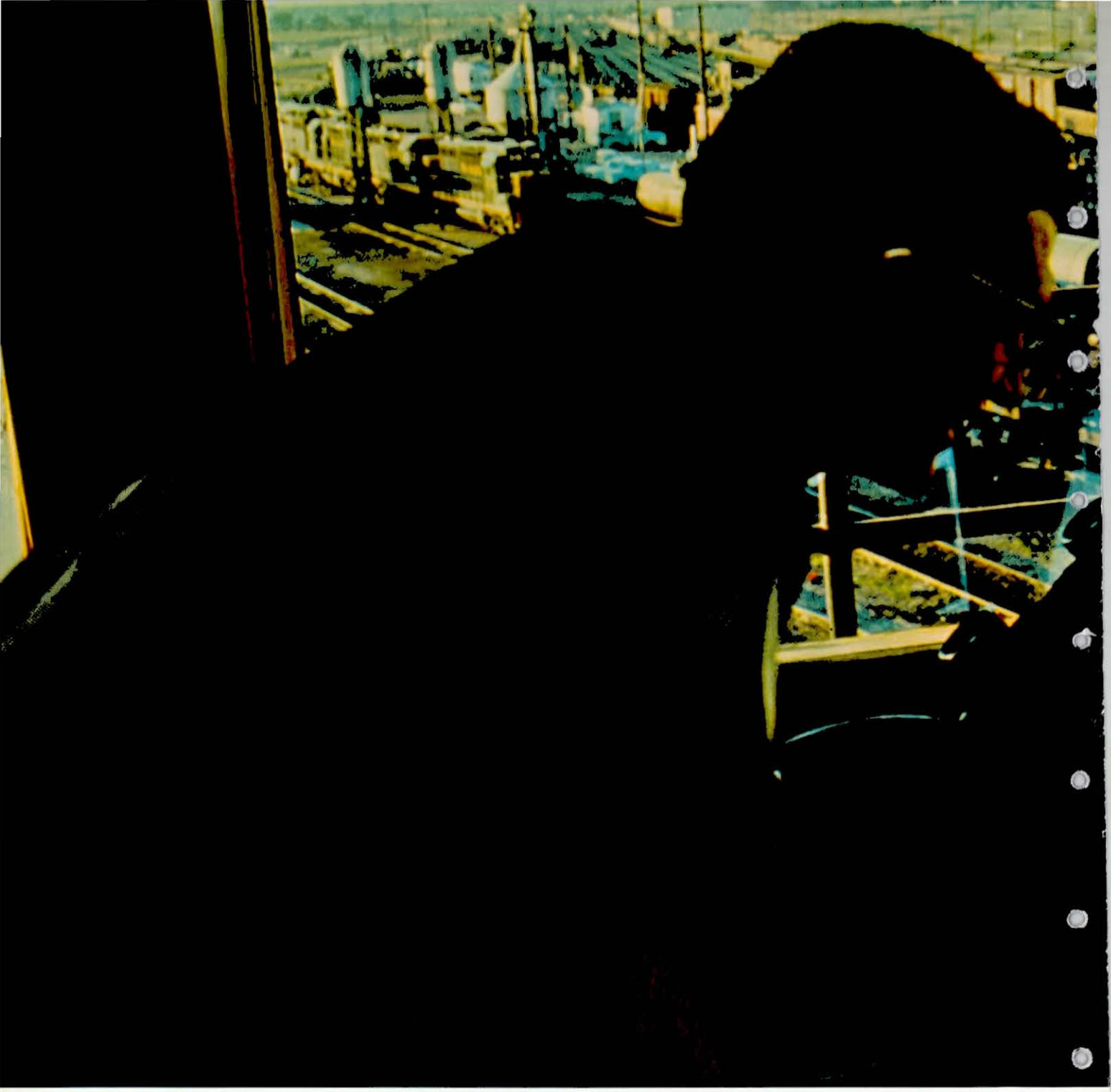


Value analysis in replacement parts buying can keep locomotives on the job.

We suspect that most railroads apply value analysis in one form or another to replacement parts buying.

We encourage it. We think you'll agree, however, that it makes sense to analyze the part in terms of the needs of the system in which it must perform.

Take a traction motor brush, for example. The right brush will, throughout its service life, provide balanced commutation over the entire speed range of the locomotive. Our triple wafer carbon brush does this. (A million miles of testing says it does it better than any other brush.)

But you can buy brushes that cost a few pennies less that seem to perform just as well for a period of time. In the long run, however, they provide less than perfect commutation, invite inefficiency and flashover. If this happens, motor damage or armature failure can occur.

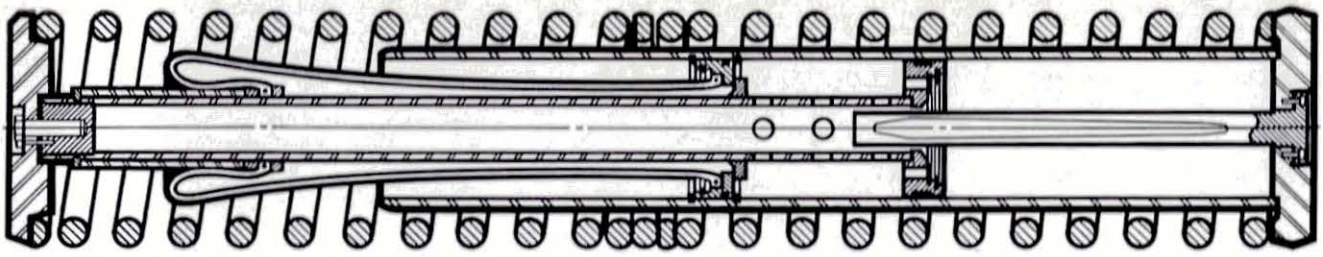
Then there's more at stake than the cost of the brushes. The repair cost could run into thousands of dollars, not to mention the loss of the locomotive to downtime.

We're all for value analysis in replacement parts buying. But we hope you look beyond the single part to the system. If you do this, we think you will find that the replacement parts we make for the locomotives we build are the best value.

We won't settle for less. There's too much at stake.

Electro-Motive Division
La Grange, Illinois

GM



What's the safest distance between two shipping points? The 30-inch travel length of the Hydroframe-60® cushioning unit.* It's proved. It's patented. By Pullman-Standard.

A DIVISION OF PULLMAN INCORPORATED

PS

WORLD'S LARGEST RAIL CAR MAKER
200 South Michigan Avenue, Chicago, Illinois 60604

*COVERED BY U.S. PATENT 3,003,436. OTHER PATENTS PENDING.

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◀ Circle 20 on reader service card

TIME-PROVEN CAR PROTECTION...

MARK 50

Over 125,000 Westinghouse Mark 50 Friction Draft Gears are in use on over 100 railroads and private car lines in the United States and Canada! Since the first order was received on January 20, 1961, the Mark 50 has proven its ability to minimize bad-ordered cars and maintenance costs.

The Mark 50 is Unconditionally Approved by the A.A.R., Certificate No. 41, Spec. M-901E!

Application can be made to 24⅝-inch pockets with standard 17¾-inch striker.

Specify the time-proven Mark 50 for your cars and save!

CARDWELL WESTINGHOUSE COMPANY

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INTERNATIONAL DIVISION SAME ADDRESS

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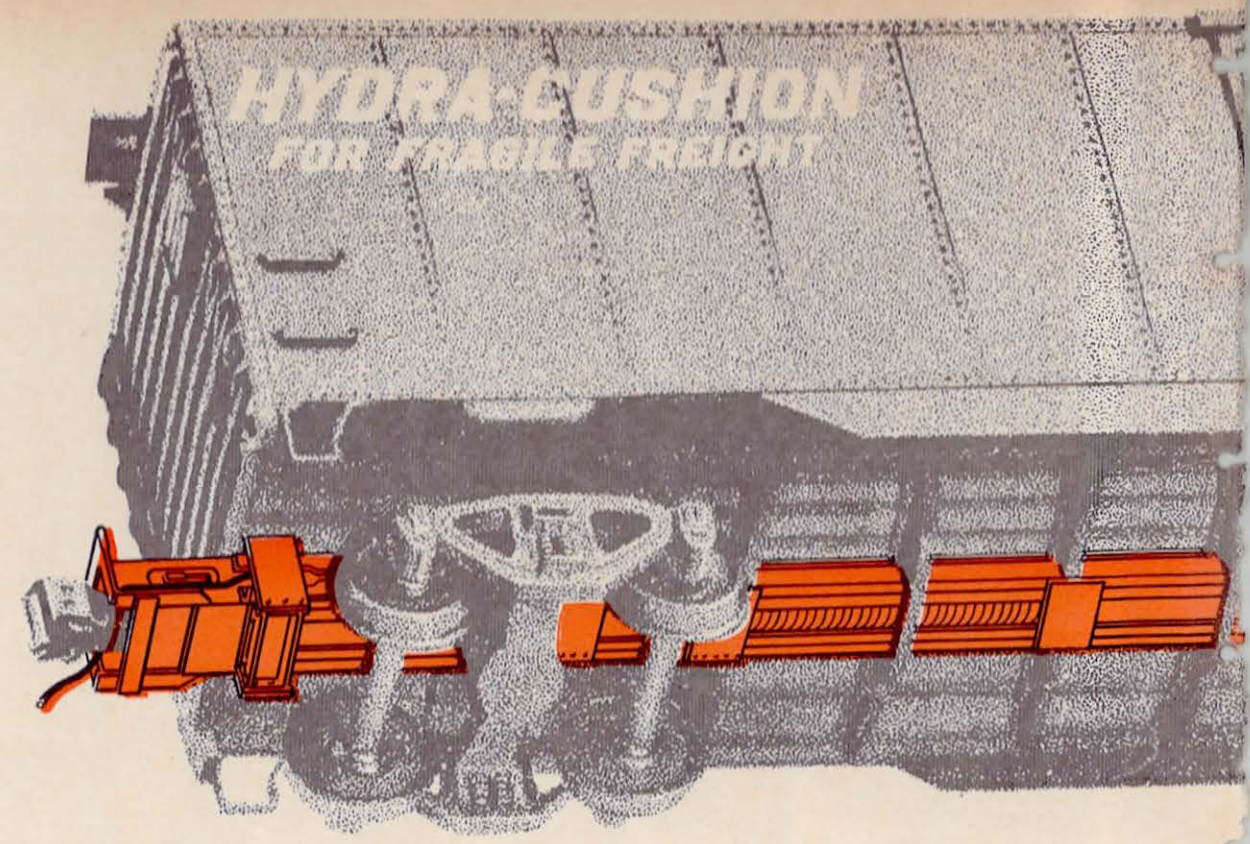


21 reasons why you should

(1) **Extra margin of cushioning safety**—Unlike other systems, the Hydra-Cushion Underframe does not rely on hydraulics alone, but on a *combination* of hydraulic and mechanical cushioning action. The mechanical components alone can cushion a fully loaded 100-ton car against impacts up to six miles per hour! The combined hydraulic/mechanical system absorbs the full range of impacts normally encountered in modern freight car handling. This is added insurance against lading and car damage.

(2) **Unique conversion feature**—When you convert 100-ton cars with 70-ton trucks to 100-ton cars with 100-ton trucks, the only conversion necessary in your Hydra-Cushion Underframes is simple replacement of a metering pin costing less than 10 dollars! The Hydra-Cushion Underframe is the only cushioning device offering this unique feature.

(3) **Long years of proven performance**—Hydra-Cushion equipped cars were introduced in service in 1954 and have since been proven over many millions of car miles.

(4) **True sliding center sill**—Provides full 20" travel, assuring performance that only a true sliding center sill can provide.

(5) **Low hydraulic pressure**—The Hydra-Cushion Underframe is a low-pressure system, minimizing maintenance problems.

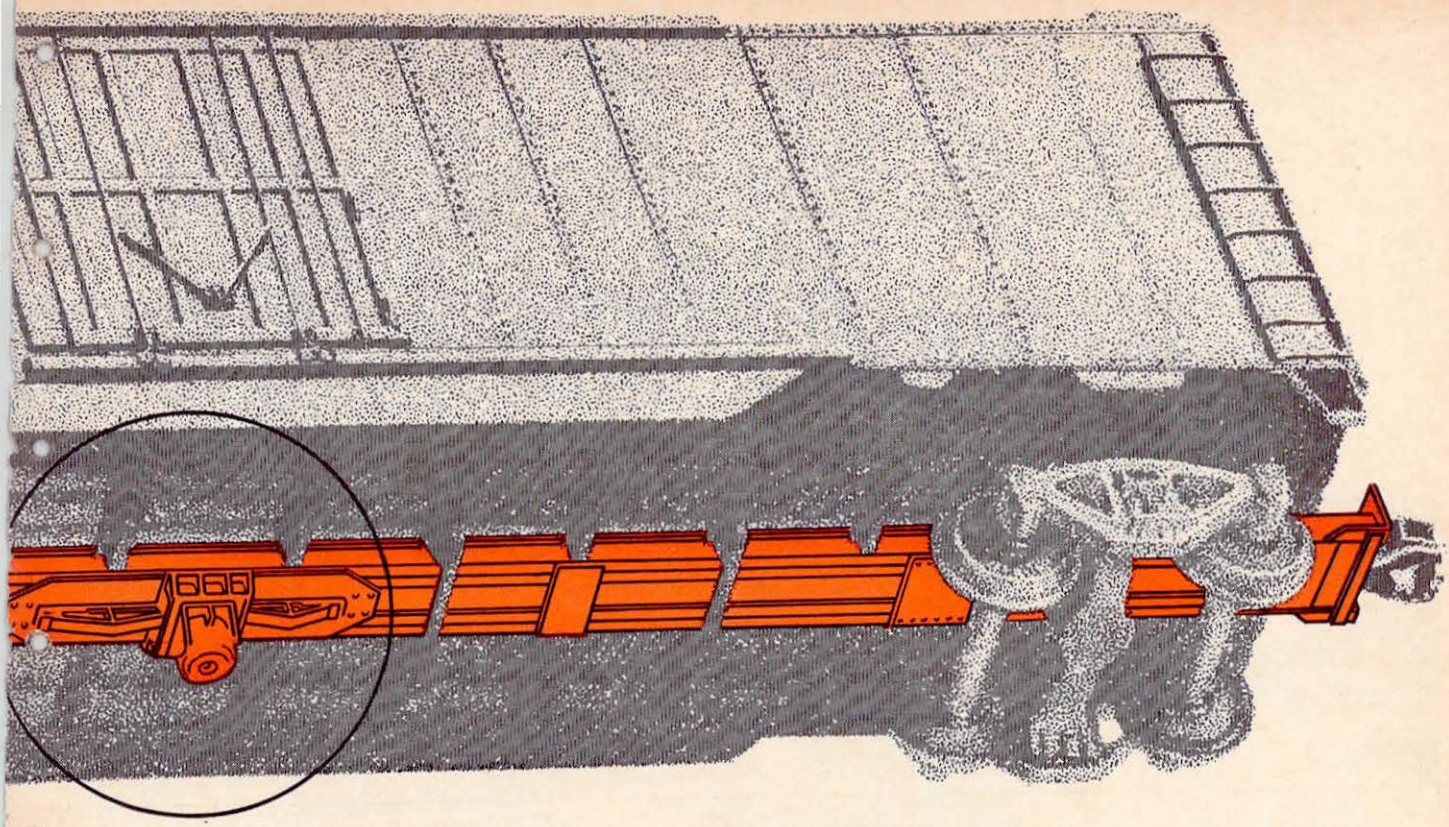
(6) **Minimum hydraulic fluid**—Only seven quarts of fluid is needed for the Hydra-Cushion low pressure hydraulic system. Checking of fluid levels is not required.

(7) **Most powerful return spring**—Cushioning capacity of the Hydra-Cushion return spring is 45,000 ft. lbs., an exclusive Hydra-Cushion feature. This powerful spring has more than twice the capacity of standard draft gears.

(8) **Less wear on sill**—The stiffer the return spring, the less wear on sill contacting surfaces. The return spring assembly of the Hydra-Cushion Underframe is substantially higher in capacity than those used in any other modern hydraulically cushioned device of the sliding sill type.

(9) **No sill lubrication required**—Some cushioner manufacturers recommend sill lubrication for optimum functioning of their equipment. The Hydra-Cushion Underframe does not need it.

HC® **HYDRA-CUSHION®**



This combination makes the big difference in car cushioning. The patented combination of hydraulic unit and friction plates in the Hydra-Cushion system provides an extra margin of cushioning safety. No other cushioner has it. This is one of many reasons why the Hydra-Cushion Underframe is America's leading car cushioning device.

specify Hydra-Cushion® Underframes

(10) **No oil leakage**—The Hydra-Cushion design employs a vertical low-pressure hydraulic cylinder. Upright position of the oil reservoir eliminates possibility of oil dripping which is sometimes encountered with horizontal units.

(11) **Sill movement controlled**—Oversolid stops control maximum draft sill movement to 20" in either direction.

(12) **Permits controlled swing of coupler**—The Hydra-Cushion buff unit produces a minimum of coupler slack. It has a cushioning capacity of 22,000 ft. lbs.

(13) **Cast steel center support**—Rugged cast steel center supports are designed and engineered to last the life of the car.

(14) **Positive sill return**—Design of the Hydra-Cushion return spring assembly assures positive sill return after impact. Sill does not stick off-center.

(15) **Reduced sill oscillation**—Design of the Hydra-Cushion unit minimizes fore-and-aft sill oscillation in train operation.

(16) **For any freight car**—The Hydra-Cushion Underframe can be installed in both new and existing freight cars economically.

(17) **Proven dust boot**—Dust boot is rugged and tough, and is designed for long life.

(18) **Reduces car weight**—Use of Hydra-Cushion Underframes makes possible a reduction in weight and cost of interior load restraining devices.

(19) **Long life, minimum wear**—The Hydra-Cushion Underframe's bronze stationary friction plates and high strength steel moveable friction plates are specially designed for long service. They have been proven in use in millions of car miles over many years.

(20) **Minimum seal wear**—Piston travel is shortest of any hydraulically operated through-sill device. Short piston travel reduces possibility of seal wear.

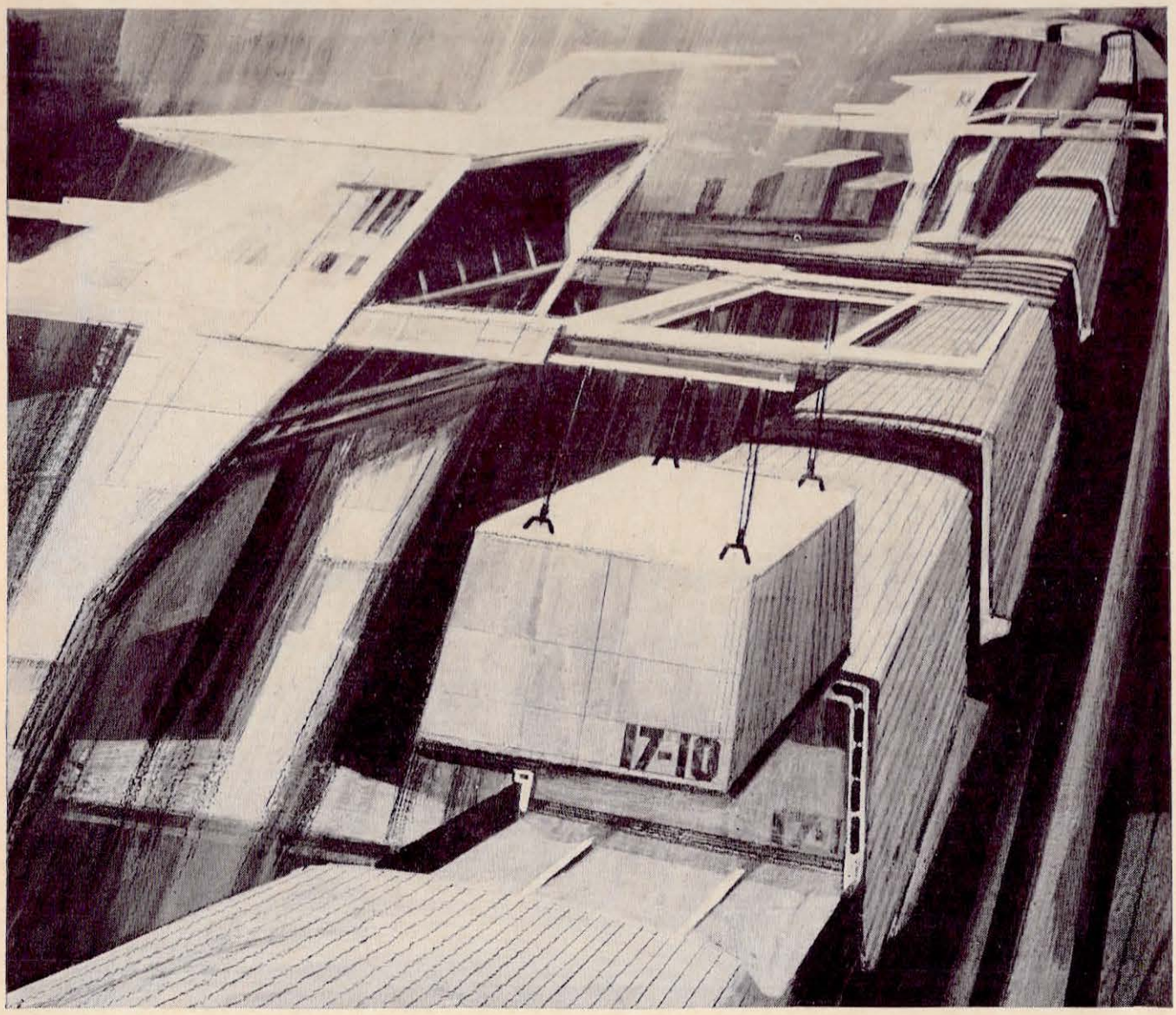
(21) **Service follow-through**—The Engineering Design and Consultation services we provide to railroads interested in car cushioning are a Hydra-Cushion exclusive. After a sale, our field representatives work closely with your installation people to assure that all components are installed properly and operate efficiently.

UNDERFRAMES

HYDRA-CUSHION INC.
332 So. Michigan Ave. Chicago, Illinois 60604
13101 Eckles Rd. Plymouth, Mich. 48170
Canadian Representative: International Equipment Co. Ltd., Montreal

Circle 23 on reader service card

Dare us.



See what we can do with aluminum. The articulated freight train's a practical arrangement, with cargo containers that can be transferred to truck, plane or boat as required. It's one of the exciting new railroad ideas. Just the kind we like to get involved with.

We've already done some pretty unexpected things. Like designing and making the center sill for the new, all-aluminum rapid transit cars being built for the Port of New York Authority's Trans-Hudson "PATH" system. The sill weighs less than 2000 pounds—about half the weight of a similar section made of steel.

Working on new ideas is our strong suit. We have the design people. And some pretty unusual equipment (like a 14,000-ton extrusion press) to produce what they come up with. We'll put everything to work on your project.

If you'll challenge us.

Metal Products Department, The Dow Chemical Company, Midland, Michigan 48640.

DOW

Circle 24 on reader service card

(Continued from page 26)
load dividers, were constructed at the road's Havelock, Neb., car shop. The interiors are completely encapsulated with foamed-in-place insulation. Car features include a reinforced arched roof which eliminates carlines, and floors supported on transverse stringers. Longitudinal stringers are not used. The cars cost $30,000 each and comply with AAR Plate C.

● **Liquid nitrogen test.** The last of 100 meat-rail cars off the production line was equipped with the Linde Polarstream liquid nitrogen cooling system. On the car's first trip, 89,000 pounds of hog carcasses shipped from Sioux City, Iowa, to Los Angeles, Calif., were reported to be in satisfactory condition on arrival.

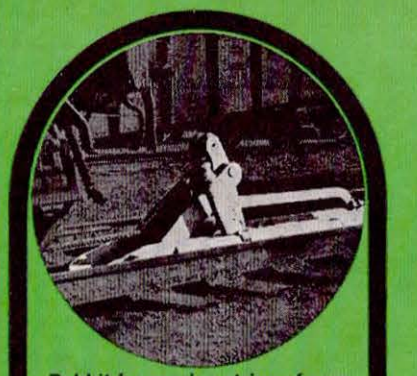
The Burlington expects to test a nitrogen-atmosphere-mechanical system in one of the meat-rail cars. With the regular Thermo King unit maintaining the required temperature, the added system is to hold the oxygen in the lading space at approximately 1% or less. With this arrangement, it is reported that natural respiration and oxidation of fresh fruits and vegetables is halted, preventing premature ripening and deterioration. Where meat shipments are involved, shrinkage is greatly reduced and the surface appearance is preserved.

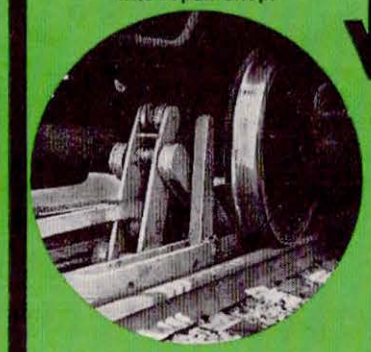
● **Mechanical refrigeration.** The balance of the meat-rail cars are equipped for standard automatic mechanical temperature control provided by a direct-coupled Mercedes-Benz OM-636 diesel engine and a Thermo King RUD 30 refrigeration unit. Detroit diesel engines are used in the load-divider cars, with Trane refrigeration units in 95 cars and York units in five cars.

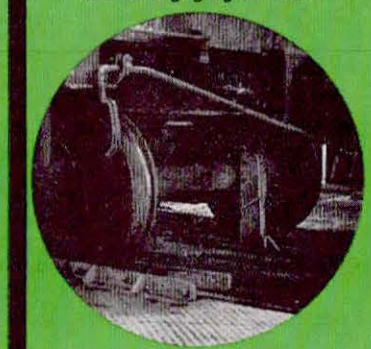
All cars are equipped with 20-inch-travel Hydra-Cushion underframes. Length over strikers is 65 ft.

Foamed-in-place two-pound-density polyurethane insulation is used throughout the cars, 6 inches thick in the floors and 5 inches thick on the sides, ends, ceiling and doors. "Since 1963, when the road developed production-line techniques at Havelock [RA, March 11, 1963, p. 12] for applying insulation to RB cars, the process has consistently given excellent results," reports a Burlington spokesman.

● **Arch roof.** The ceiling construction consists of 4-inch transverse extruded aluminum beams on 24-inch centers, on top of which is welded a 1/16-inch perforated aluminum ceiling duct. Fir plywood panels 3/8- x 48- x 9½-ft are snapped transversely in place to form an arch over the duct. Insulation is foamed on top of the arched plywood, then shaped for application of the roof panels. ■


Rabbit for moving string of cars into repair shop.


Rabbit engaging car axle.


Smaller Rabbit moving car out of repair shop.

Heavy-duty Rabbit on locomotive repair system.

which RABBIT For Your Spot Car Repair System?

Controlled by push button, powered by electric car pullers, these Rabbits deliver cars safely when and where wanted. ■ RMC makes Rabbits for locomotive and car repair systems, car cleaning and upgrading systems. There are now 65 Rabbit equipped tracks in service. ■ Ask for data on Rabbits for car handling.

Railway Maintenance Corporation

Box 1888 · Pittsburgh, Pa. 15230

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Circle 26 on reader service card ►

Gulf Dieselmotive 470 stops oil cooler c---l---o---g---g---i---n---g.

It's completely ashless!

New Gulf Dieselmotive 470 minimizes the buildup of oil cooler deposits and thus maintains proper heat transfer conditions.

It's not unusual for oil coolers to accumulate 25 or more pounds of passage-blocking deposits per year which limit cooler efficiency, cause higher oil temperatures and accelerate oil oxidation.

In field tests on road switchers, the oil coolers were weighed prior to installation of Dieselmotive 470 and again after one year of operation.

Each cooler had increased in weight by less than five pounds . . . only 11 pounds (without cleaning) after three years.

Dramatic reduction of deposits is only one of the outstanding advantages of using this remarkable new oil.

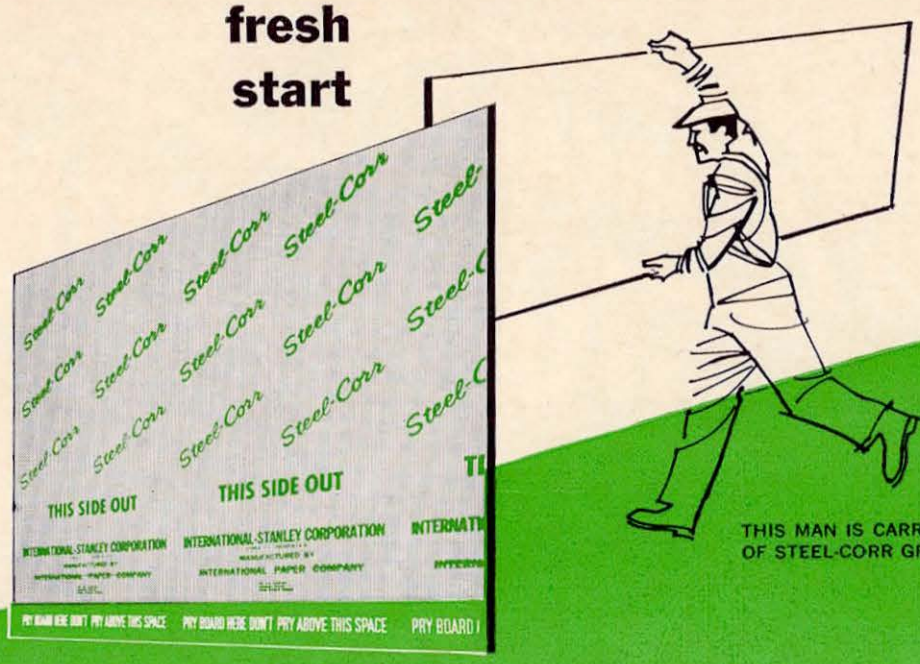
For complete information on revolutionary new Gulf Dieselmotive 470, send for our brochure which provides you with test data and engine photographs.

Gulf®

Gulf Oil Corporation,
Department DM 20-6, Gulf Building,
Houston, Texas 77002

Gulf makes things run better!

a fresh start



THIS MAN IS CARRYING A CAR-SET OF STEEL-CORR GRAIN DOORS.

every trip with Steel-Corr® GRAIN DOORS

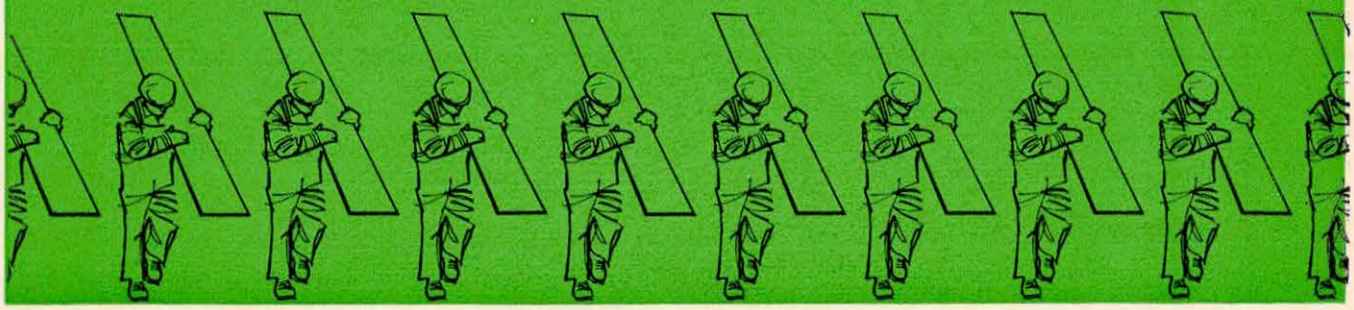
safe

clean

sanitary

easy to install

easy to tote!



THIS MAN HAS TO MAKE 10 TRIPS TO CARRY A CAR-SET OF WOOD DOORS... A STRONGER MAN MIGHT BE ABLE TO MAKE IT IN 5 TRIPS.

Steel-Corr is more than just a grain door... it's a protection program. International-Stanley has the largest staff of service engineers of anyone in their field, strategically located throughout the United States to work with you on your doorway protection and car lining problems.

If you are not receiving INSIDE STORY, our company magazine, ask to be placed on our mailing list.

INTERNATIONAL-STANLEY CORPORATION

G-760

8401 West Dodge Road, Omaha, Nebraska 68114

Circle 27 on reader service card

• **The Chicago and Northwestern Railroad Company** uses Double-Cover POLYCLUTCH Lining in center-discharge, 4,000-cubic-foot-capacity covered hopper cars constructed by Pullman-Standard Division of Pullman, Inc.

One coat does the work of two with new Double-Cover POLYCLUTCH® Lining!

A single coat of this remarkable lining for covered hopper cars gives equivalent dry film thickness of two-coat systems.

Pittsburgh's POLYCLUTCH gives you:

• **Less overspray loss,** reducing gallonage per car.

• **Longer-lasting coating,** because Double-Cover POLYCLUTCH is tough, flexible; protects against abrasion, impact and successive cleanings.

• **Quick, easy application,** with either airless or conventional cold spraying equipment.

• **Fast drying;** no waiting for drying between coats. Cars are put back into service faster.

• **Cleaner cars,** because you don't enter them again to apply a second coat.

• **Faster unloading,** because ladings slip and slide easily; won't stick to POLYCLUTCH's hard, smooth, non-porous surface.

• **No contamination losses,** as this non-toxic lining is tasteless, odorless, and has no effect on foodstuffs. Approved by the U. S. Food & Drug Administration.

• **For additional facts** about Double-Cover POLYCLUTCH, and how it does a better job at less cost, write Pittsburgh Plate Glass Co., National Accounts Division, 1 Gateway Center, Pittsburgh 22, Pa.

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Circle 28 on reader service card

Traffic Poll

(Continued from page 19)

"Smaller orders would necessarily have to move by common or contract carrier truck," says a third respondent.

The very organization of railroads would be a factor in any economic downturn, according to other respondents.

"They have such a relatively large investment in equipment and facilities that their fixed costs would remain high, while other carriers could more easily reduce expenses to adjust to decreased revenue," one man thinks. A second agrees that the railways' "huge fixed costs would keep them from cutting down or retrenching. They need," he adds, "a large volume more than higher rates."

● **Policy effects.** Operating policies and car shortages would also tend to hurt railways in the event of a long-lasting business slump, according to some Poll respondents.

"In a period of recession," writes one, "railway managements are the first to initiate a policy where operations are conducted with symbol trains only when full tonnage consist is available at scheduled departure times."

"The forest products industry in the West has historically been rail oriented," remarks one of its spokesmen. "However, because of chronic and ever more serious car shortages our industry is actively seeking alternate means of transportation. Unless the railroads quickly correct their shortcomings there will be some diversion of our tonnage to other forms of transportation."

Others point out that lack of interest in LCL has already hurt the railroads, and diminished their possible flexibility in meeting a business slowdown. Carload service is acceptable, says a westerner, "but we have to depend heavily upon trucks or freight forwarders for LCL, since rail service, with us, is poor or non-existent."

A New Yorker agrees that "rail services on small shipments do not lend themselves advantageously to holding transportation costs in line with purchases and sales."

But the same man also makes what may be the best possible summary of the differing answers to the questions raised in the Poll, when he says that the effects of a business slowdown on modes of transportation "would depend on the individual industry or business involved."

[Most of the respondents to this particular Poll requested that they not be quoted by name or company. Therefore, all names have been omitted from the foregoing report.—Editor] ■

WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

ARE RAIL TRUCKERS RAILROADERS?—Railroad management, the trucking industry and the International Brotherhood of Teamsters are among those objecting to any favorable ICC action on the petition filed last February by the Brotherhood of Railway Clerks. The opposition is expressed in presentations of interested parties which have been filed recently with the Commission. The case is docketed there as No. MC-C-5086.

BRC, supported by the Railway Labor Executives' Association, wants a Commission determination under the Administrative Procedures Act that railroads and their affiliates are carriers by railroad when they conduct line-haul trucking operations with tie-to-rail restrictions. These restrictions are set out in conditions attached by the Commission to most railroad trucking certificates in order to insure that the motor carrier services authorized remain auxiliary and supplemental to rail operations.

WHAT WOULD BE WROUGHT—Favorable action on the BRC petition would result in regulation of these trucking services under the Interstate Commerce Act's Part I instead of under Part II, the Motor Carrier Act. And that would bring the involved employees, now subject to the National Labor Relations Act, under the Railway Labor Act. They would also be brought under the Railroad Retirement and Unemployment Insurance acts. Such a set-up, presumably, would advance BRC undertakings to represent the employees for collective-bargaining purposes.

Carriers whose employees are covered by RLA are defined in that act as railroads, express and sleeping car companies subject to the Interstate Commerce Act. Also covered are employees working for subsidiaries of those carriers which operate any transportation service—"except trucking service." The Retirement and Unemployment Insurance acts have similar scope provisions.

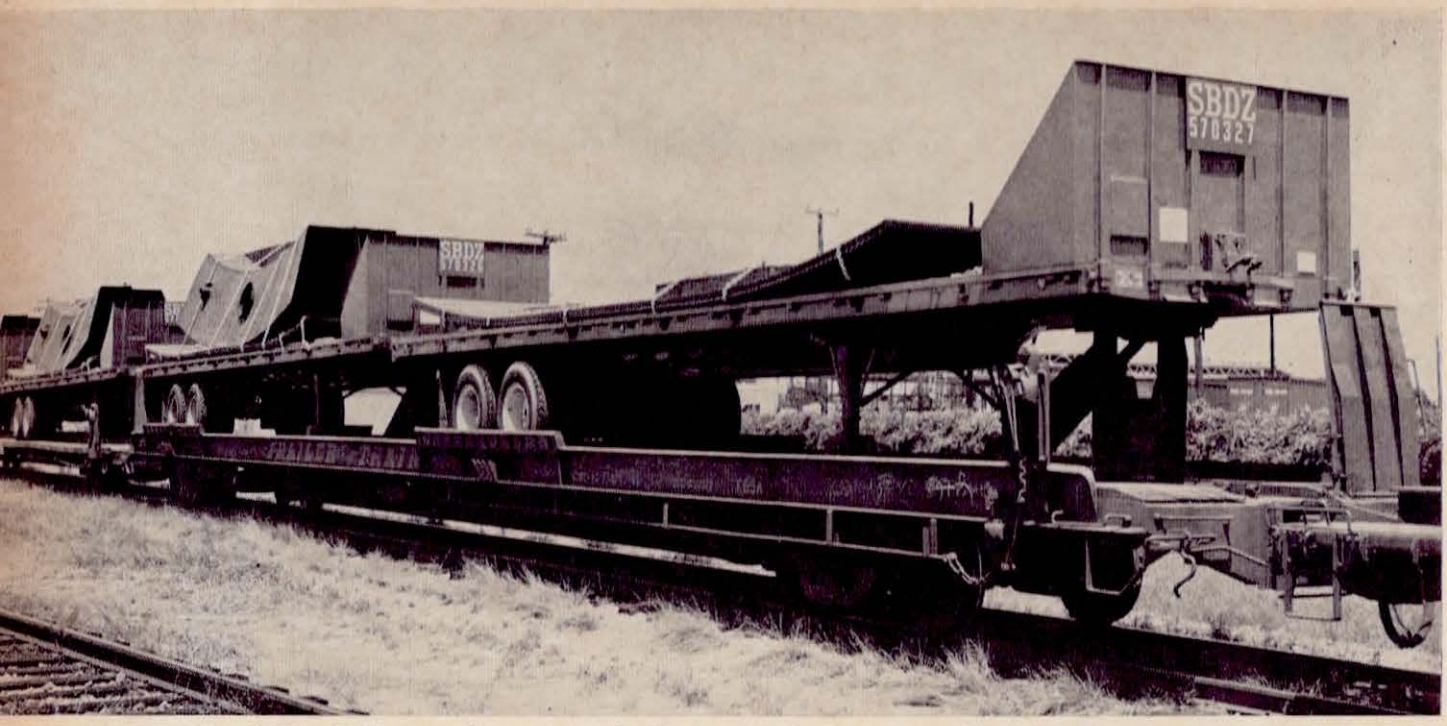
'BARE-FACED' RAIDING PLAN, SAYS IBT—The Clerks' petition says its proposal to have the coordinated line-haul trucking operations defined as carriage by a railroad is of primary importance to insure proper interpretation of RLA and the Retirement and Unemployment acts. IBT calls the petition nothing more than a "bare-faced" attempt to use RLA coverage, and services of the National Mediation Board, to deprive the Teamsters of rights they have had for many years to represent the employees involved.

NMB takes what amounts to a neutral position. It says ICC action would not poach on the Board's preserves—because nothing is involved at this time which is a labor dispute covered by RLA.

ICC NO MAGICIAN, SAYS AAR—The AAR asks the Commission to dismiss the petition for lack of jurisdiction. The Brotherhood wants the Commission to "change trucks into trains by administrative amendment of acts of Congress which provide otherwise," the Association says. It supports this position with citations of pertinent Commission and court rulings, and references to legislative histories of the laws involved.

The admitted purpose of the petition, AAR also says, is to obtain an abstract interpretation of the IC Act "so as to afford a foothold upon which petitioner may contend for a strained and unwarranted interpretation of these other federal statutes with respect to which this Commission has no jurisdiction or responsibility." The railroads hope the Commission will not thus be used as "a tool or foil."

TRUCKERS FEAR DISRUPTIONS—The trucking industry's opposition is stated by American Trucking Associations. It agrees with AAR's position that the Commission lacks authority to do what BRC proposes. At the same time, it warns that a switch in regulation of rail trucking operations from Part II to Part I would produce confusion, disruptions, and adverse effects on independent truckers.



SPEED AND LOWER COST are prime reasons for Seaboard's steady capture of business that once went solely by highway.

SAL's 'Razorback' service gets former truck traffic

Iron and steel shippers find that Plan III TOFC gives them important per-car cost savings.

Seaboard Air Line is building up a large volume movement of iron and steel products via its piggyback "Razorback" service from Birmingham, Ala. SAL's determined drive to put iron and steel in TOFC service is paying off to the extent of some 3,000 trailers moved out of Birmingham by the Seaboard in 1965.

The traffic is increasing by leaps and bounds, particularly since word got around from an industrial traffic manager that he was saving $415 per car in shipping charges on a "Razorback" movement of tank steel from Birmingham to Turkey Point, Fla. Since there were 129 trailers involved, to supply a single job, the saving has caused industrial traffic managers of other companies to give Seaboard's "Razorback" service a searching once-over, with the idea of applying it to their own businesses.

● **Former truck traffic.** Because 70 to 80% of the big 100-ft water tanks are erected in places where there is no railway service, they had been moving by truck exclusively for many years. This wasn't entirely satisfactory, because the size and weight of the individual items frequently required circuitous routes to get around weak highway bridges. Also, because of the wide loads, it was generally necessary to get permission from the highway authorities of each state traversed before a truck could be moved. A big percentage of the shipments required the additional expense of pilot cars. The entire matter of shipping material for these huge tanks presented a vast array of headaches for traffic managers. Until the inauguration of TOFC, however, there wasn't much railroads could do to handle this traffic. The expense of loading and unloading the cars and the trucks at each end was prohibitive.

Now, though, under Plan III, almost all of the highway difficulties are avoided, the service is infinitely faster by rail, and the rates are much lower. In addition, the shipper can learn at any time just where his trailers are on the railroad and arrive at a reliable delivery time, so as to schedule the arrival of his work crews on the site. Such scheduling was formerly a big part of the expense, since it was necessary to anticipate arrival by a day or two to be sure the force would be there when the trucks arrived. Now the Seaboard puts the tank material on the trailer cars in the evening, moves the train out of Birmingham at midnight and—in the case in point with the big savings—gets it into Jacksonville for second-morning delivery out of Birmingham, even though it has to be moved "around the horn" as the route through Hamlet, N.C., and then south has been named.

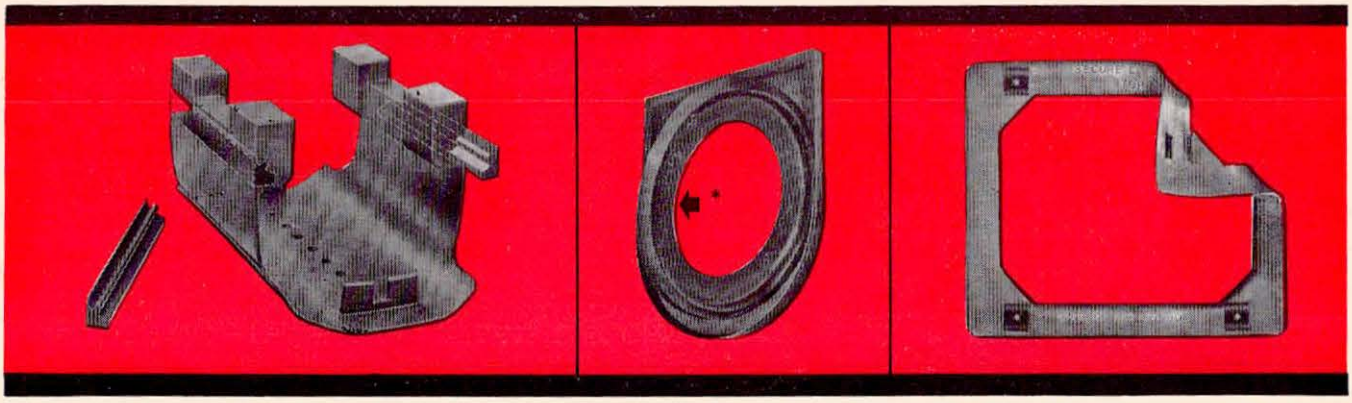
● **Portable trailer ramps.** The trailers contain the actual tank material, including the huge "legs" for holding up the tank. The legs are sectionalized as otherwise they would reach a length of 100 feet or more. The same trailers may also contain the heavy-duty machinery necessary to erect the tanks on the ground, as well as workmen's tools and such things as the bolts and nuts used in putting the structures together. The Seaboard has a number of portable trailer ramps for this service.

Wherever the movement is substantial enough—and, for these tanks, it usually amounts to a minimum of 50 carloads, including the erecting machinery—such temporary ramps are set up and can be put in operation within 24 hours at any site, within the allowable legal limits.

Another movement of iron and steel

(Continued on page 62)

Use the UNITY complete time and service-proven solid journal box assembly package



The Proven "SECURITY" Insert Journal Stop of Perfected Design.

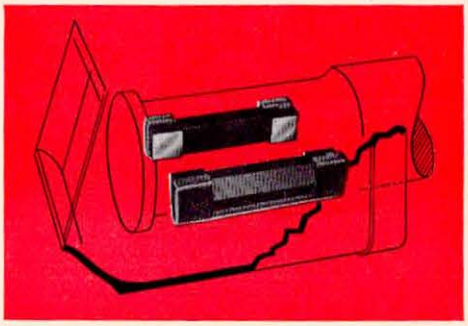
The Proven "ROBCO" Journal Box Rear Seal—with exclusive self lubricating feature*.

The "SECURE" Journal Box Lid Seal, Designed to Seal with *All* Journal Box Lids.

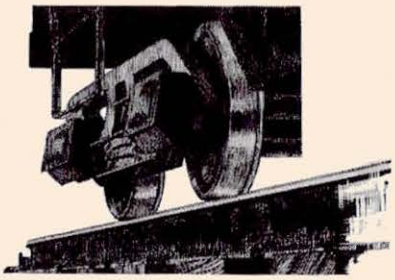
Journal Stops, Rear Seals, Lid Seals and Lubricators—All AAR Approved—All from ONE SOURCE!

The purchaser has the option of using either PREMIER or ATLAS Lubricators to complete the UNITY service proven package.

With the purchase of the complete package—UNITY offers a *liberal discount* on ALL items.



Type "W" Journal Stop, Double and Single Contact, for Welded Installation.



For Complete Details—Write of Phone

Unity **RAILWAY SUPPLY CO., INC.**

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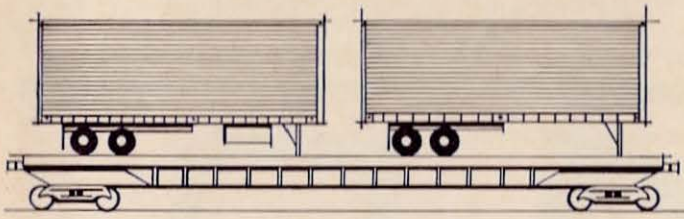
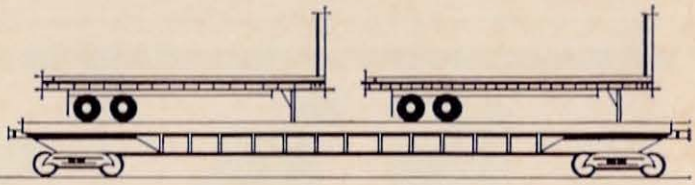
Circle 63 on reader service card

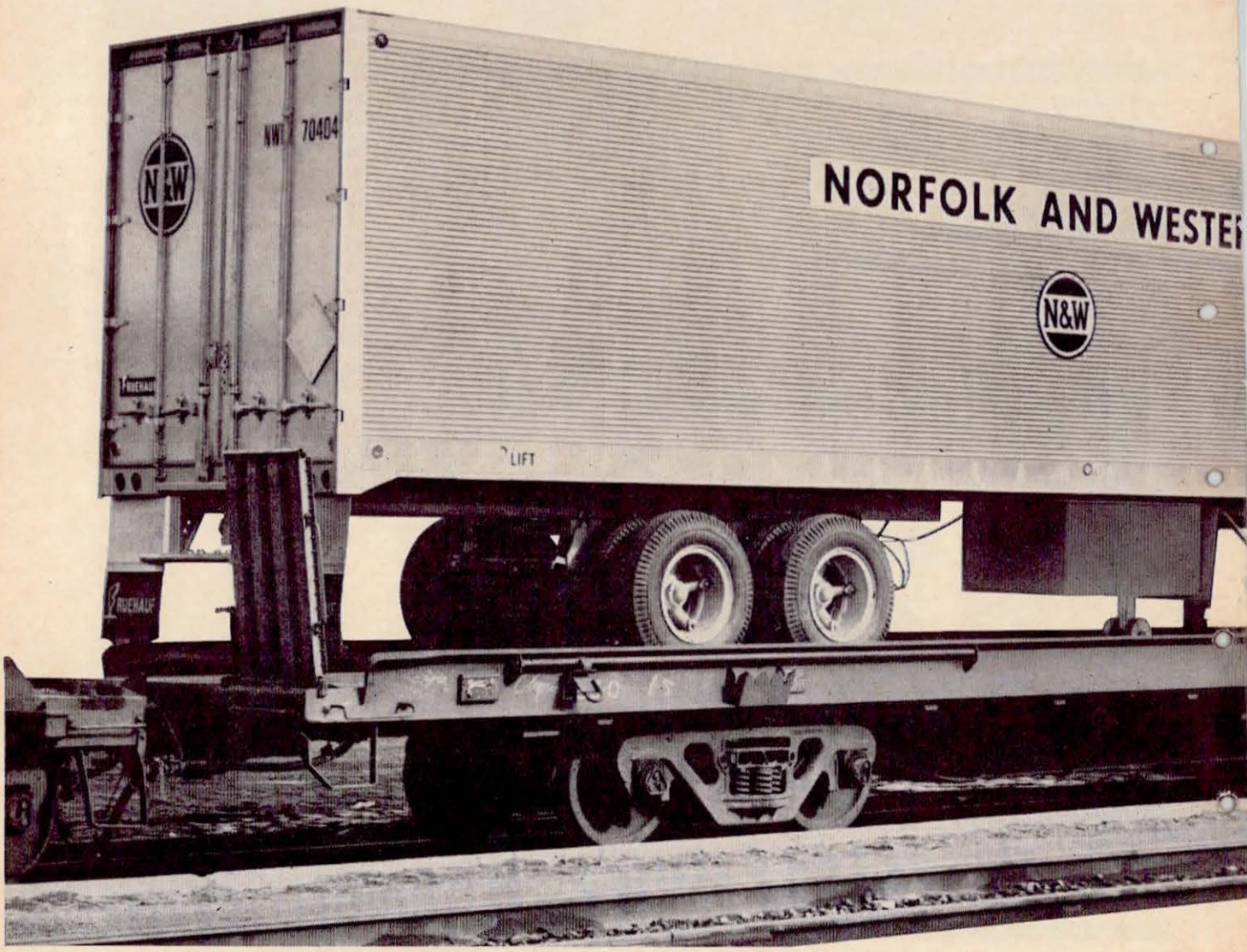
Complete piggyback service with FRUEHAUF Trailers wins more shipments...earns more profits



NORFOLK & WESTERN'S piggyback service includes refrigerated as well as dry freight Fruehauf Trailers.



Heavy, bulky, concentrated loads travel piggyback for N & W customers via Fruehauf Platform Trailers.



Ask the Norfolk and Western Railway Company. They offer complete piggyback service. That means Volume☆Vans . . . reefers . . . open tops . . . platforms . . . insulated vans . . . every type of engineered transportation unit from the complete Fruehauf line. Roomy, tough and weather-tight, they travel through fourteen states in the 8000-mile single-system railway service offered by N & W. Wherever they go, they're near Fruehauf service facilities—factory-owned branches in key cities from coast to coast—to keep trailers in profitable operation for years to come. Ask your Fruehauf representative to show you how Fruehauf Trailers provide better piggyback service, more piggyback profit. **Fruehauf Division, Fruehauf Corporation, 10953 Harper Avenue, Detroit, Michigan 48232.**

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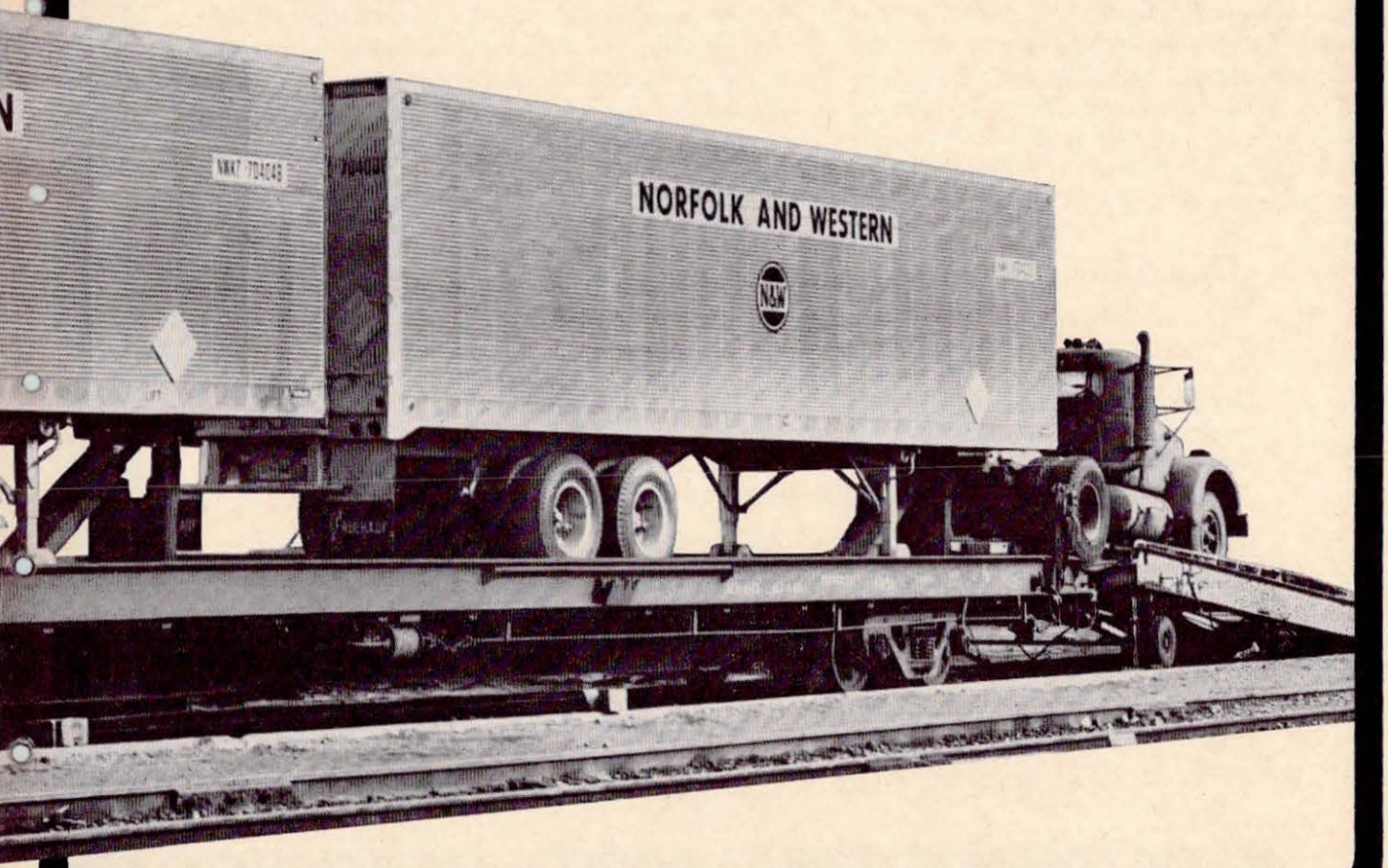
"ENGINEERED TRANSPORTATION"... The Key to Transportation Savings



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ON THE ROAD... ON THE RECORD... NEW DEPARTURE-HYATT TAPER FREIGHT BEARINGS ARE ON THE GO!

CONTINUING IMPROVEMENT PROGRAM

Materials, design and manufacturing processes are under constant review as we regularly improve the New Departure-Hyatt Taper Freight Bearing. In 1963 we installed ultrasonic inspection. In 1965 we began using vacuum degassed steels. Currently we are conducting a series of on-the-road tests to prove out a new, improved seal design.

ON-THE-ROAD DEPENDABILITY

For seven years the New Departure-Hyatt Taper Freight Bearing has been piling up an impressive record for complete dependability. Over 2½ billion trouble-free car miles in all kinds of service have proved the reliability of the NDH design, the quality of the craftsmanship and the economy of the investment.

NDH TAPER FREIGHT BEARING SALES UP 81% IN THREE YEARS

Complete acceptance by railroads has brought the NDH equipped fleet to 46,682 cars (January, 1966). This on-the-go record will grow! Fifty-nine railroads and private car companies currently use NDH Taper Freight Bearings. More to come!

Since the Hyatt and New Departure divisions of General Motors joined forces our combined talent, facilities and drive can be expected to make even greater contributions to the quality, performance and dependability of NDH Taper Freight Bearings. Specify NDH Taper Freight Bearings on your next car order!

NDH

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HEATH
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TAPER

HOW TO FOIL THE GREAT TRAIN ROBBERY

Outdated cars. Damaged cars. And the big new cars on the drawing boards. They're robbing your profits until they're out of the shops.

Get them on the road with payload—fast—with help from LINDE brand welding and cutting equipment and supplies from Union Carbide.

You name it. We've got it. Fast, efficient, economical LINDE equipment is available to weld any metal you can use—apparatus for gas... for Mig or Tig... for submerged arc and cored wire welding. Our flame-cutting equipment ranges from simple hand torches up to sophisticated multi-torch, tape-controlled machines.

And we supply all the welding wire, gases and other expendables you could possibly need.

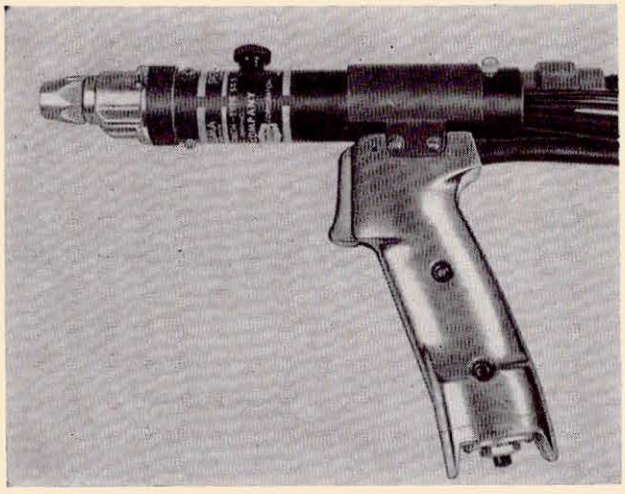
But if high-speed welding and cutting equipment is all you think about when you see the Union Carbide man, you're missing a lot!

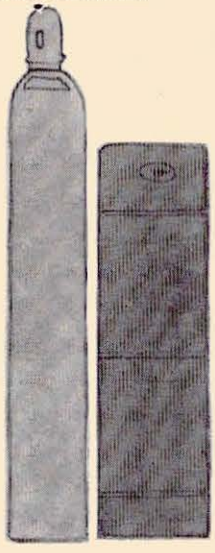
He's loaded with other products to help you run a better railroad, no matter what you're doing. Here's a sampling: urethane foam insulation... ULOK air filters... fumigants and metal cleaners... POLARSTREAM liquid nitrogen refrigeration for in-transit protection... flame-hardened rail service... anti-freeze.

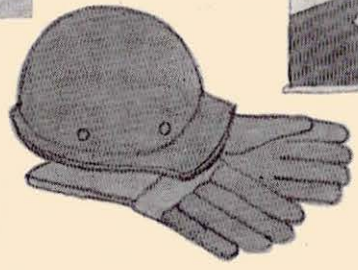
And so many more that our catalog weighs over 5 pounds.

Your Union Carbide representative who handles these products earns his living by doing great things for modern railroaders. Let him show you what he can do for you. He's from the same group as our former Oxweld Service Company, drawing on the same railroad experience and know-how to solve your problems. Railroad Products Department, Linde Division, Union Carbide Corporation, 270 Park Avenue, New York 10017, and 230 North Michigan Avenue, Chicago, Illinois 60601.

LINDE, ULOK, and POLARSTREAM are trade marks of Union Carbide Corporation.







UNION CARBIDE **RAILROAD PRODUCTS**

It can cost $2100 to keep this car lined if it's steel.

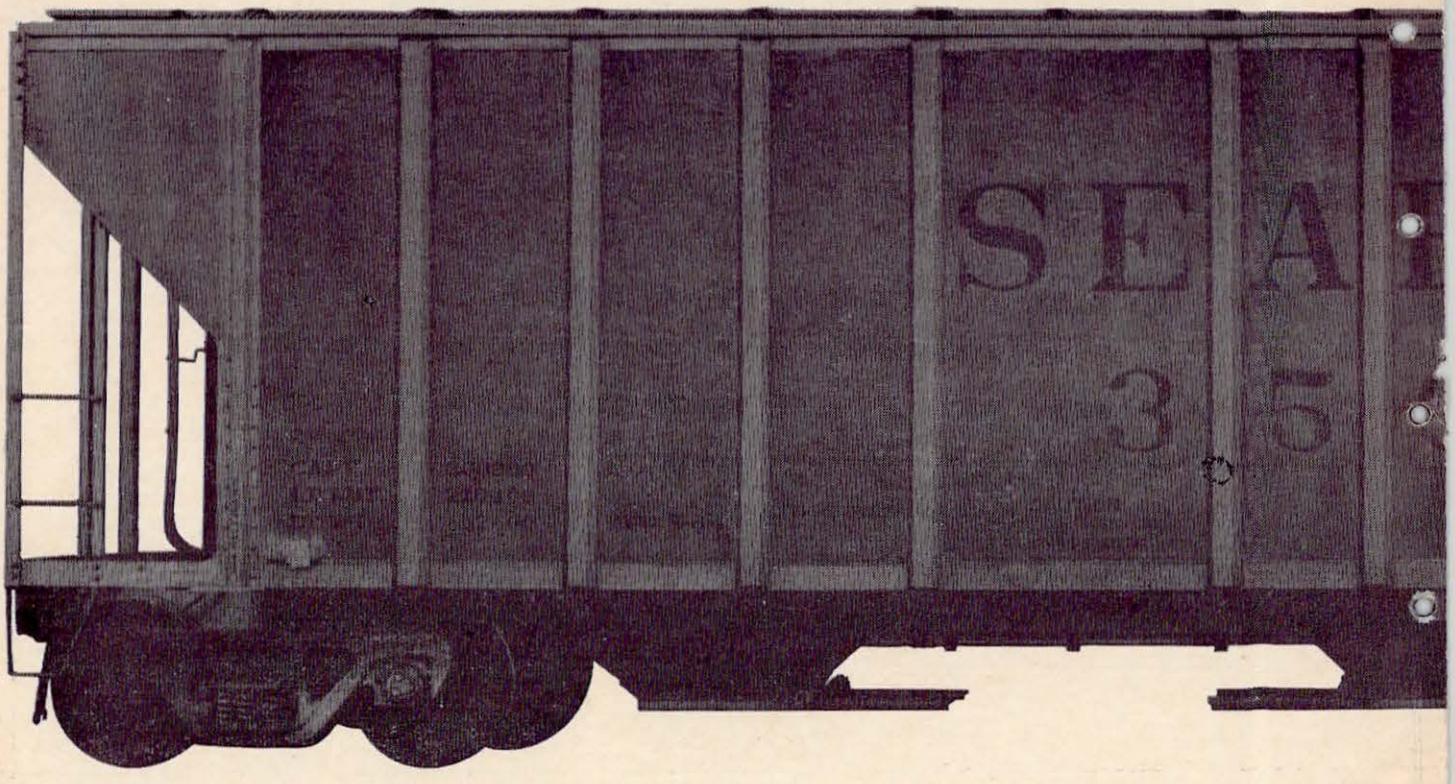
If it's aluminum, keep the $2100.

(No liners needed.)

Aluminum resists corrosion and it never rusts. To the railroad that owns or operates an aluminum-body covered hopper, this means savings, important savings over the car's lifetime.

Because of aluminum's smooth, easy-to-clean surface and its natural corrosion resistance, there's no danger of contaminated ladings. And the aluminum car never needs interior coatings or linings.

A steel hopper car's interior, on the other hand, often needs sand-blasting and plastic coating every 5 to 7 years. This means an added cost of about $2100 (for three applications) over the first 15 years of car life. *And the actual cost of lining can be much higher if you figure the revenues lost while the car is being serviced.*



Aluminum cars stay clean longer outside as well as inside; they never need protective painting.

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Finally, at the end of its service life, the aluminum body car will be worth over $2,000 more as scrap than its steel counterpart.

When you analyze all the factors of maintenance, revenue, operating cost, and scrap value, you can see why more and more aluminum-body hopper cars are going into service every year. For details, call your local Reynolds office or write *Reynolds Metals Company, P. O. Box 2346-TM, Richmond, Va. 23218.*

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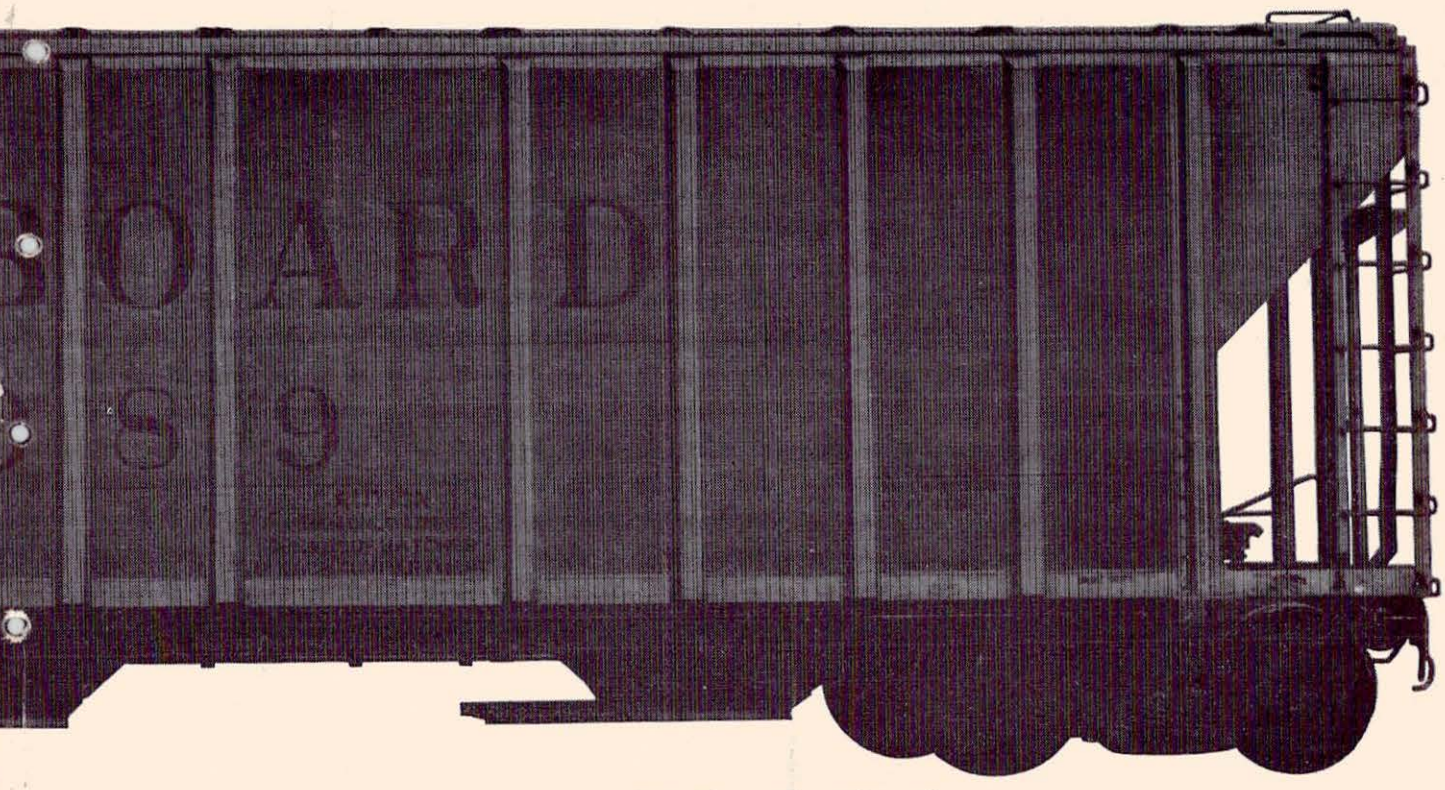

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Stromberg-Carlson backup services are the foundation on which our enviable reputation is built. Get the facts by calling or writing Industrial Sales Department, 128 Carlson Road, Rochester, N. Y. 14603. (716) 482-2200.

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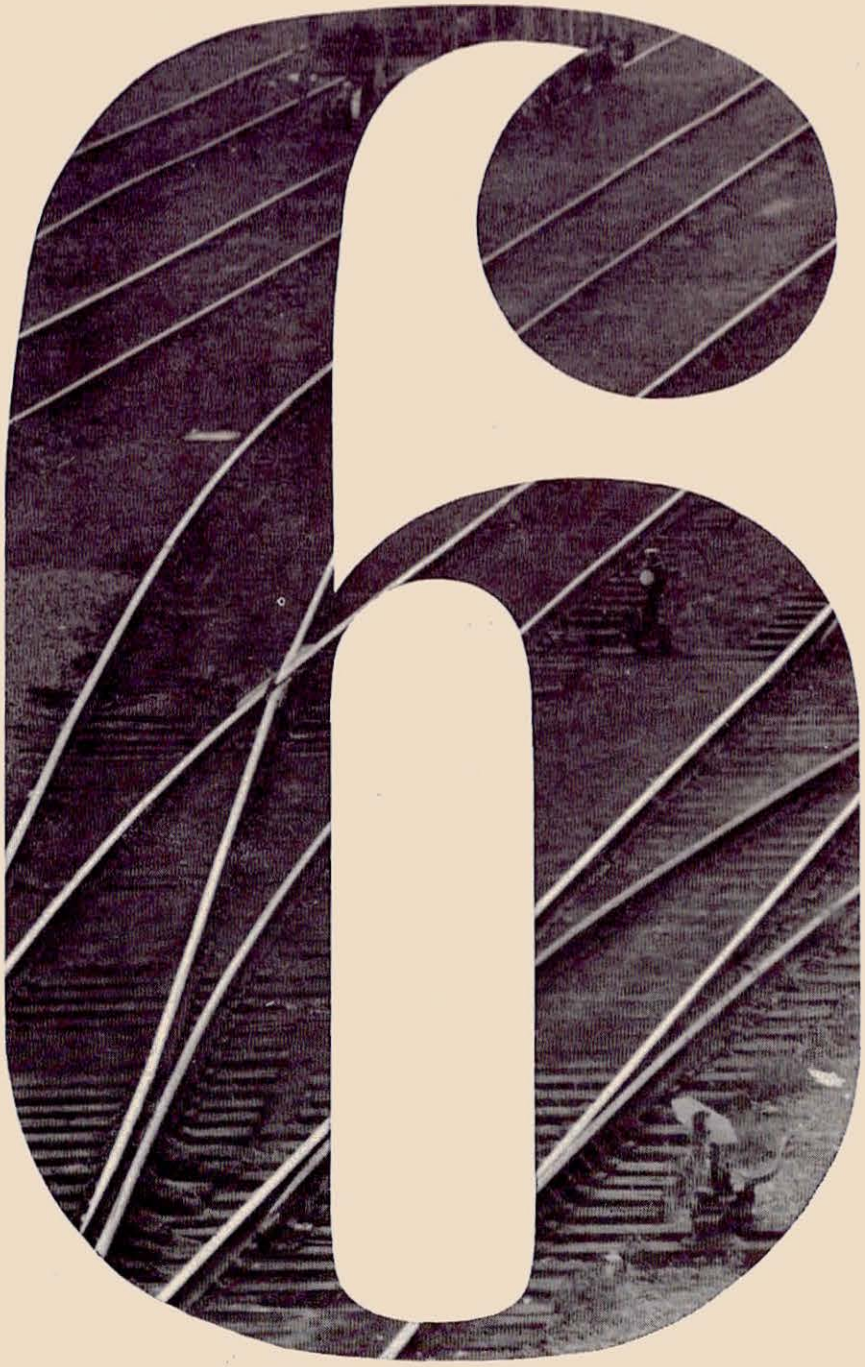

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BIGGEST SINGLE TONNAGE hauled by Seaboard out of the Birmingham area is comprised of huge sections of cast-iron pressure pipe like those shown above.

SAL gets former truck traffic

(Continued from page 50B)

products that is assuming larger and larger proportions right along is the movement of prefabricated metal factory buildings or warehouses out of Birmingham. Here, too, the distance from the nearest available railway siding had hitherto made it impossible for the business to move economically by rail, except in a few cases, since some 80% of the traffic was destined for sites four to five miles from the nearest railway siding. The Seaboard people got together with the building manufacturer and, between them, they worked out a means for handling a large amount of this traffic. At the moment, SAL is working with the manufacturer on the problem of supplying expandable trailers for the longer pieces that cannot be sectionalized for shipping. The railroad is considering the purchase of expandable trailers for handling the traffic without overhang.

● **To the West Indies.** One manufacturer does a large business in such buildings in the West Indies. Seaboard people recently worked out a deal with another company for shipping a water tank, its supports and erecting equipment, to Nassau, in the Bahamas. In this case, Seaboard handled the TOFC movement from Birmingham to West Palm Beach, Fla., by rail. From there a steamship company, which operates several LSTs converted into car ferries, took the shipment to the Bahama capital. The only difficulty encountered was with government authorities in Nassau who thought the arrangement might deprive Bahamians of work. Since the shipment was a rush order for a fuel tank for Nassau's airfield, needed before the tourist season, the authorities finally relented. The shipment went over on trailers on flat cars in the car ferries. It was driven to the site, unloaded and the trailers brought back. The shipper says he was required to pay only a 23-hr. detention charge on the trailers.

A similar arrangement is being worked out for prefabricated factory buildings moving to the West Indies. So far as Puerto Rico or the Virgin Islands are concerned, there's no problem with government authorities. Steps are being taken to work out an equitable arrangement with foreign governments controlling other islands. Since the consignee usually pays the freight and is nearly always a prominent citizen on the island, such arrangements are making good progress.

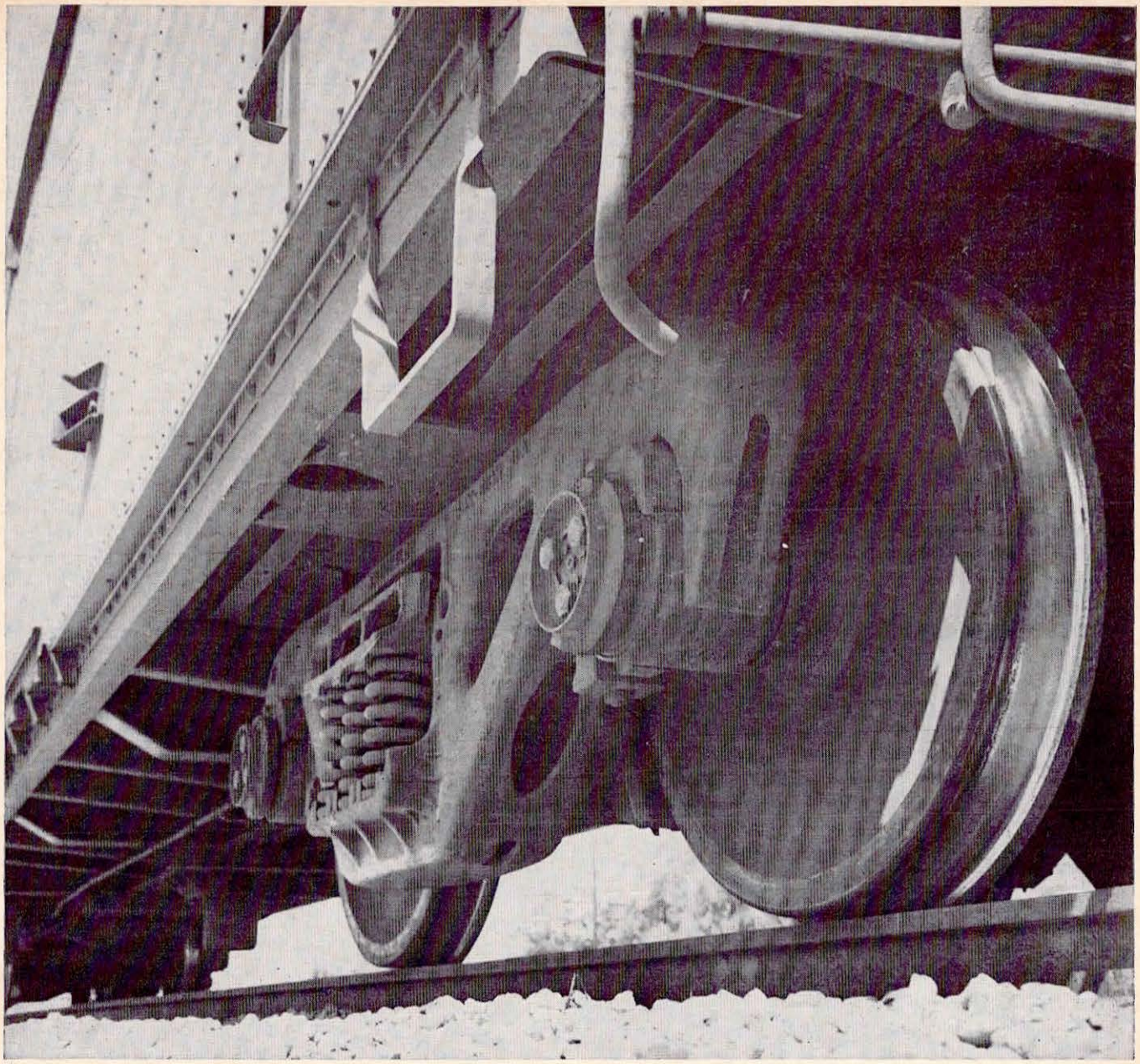
● **Less damage, too.** A shipper of steel sheets discovered there was far less damage to his product when shipped TOFC than over the highway, quite apart from the advantage gained by not having to make all the special arrangements when the weight and size of the load wasn't entirely satisfactory to the highway authorities. A steel sheet seems a sturdy enough object, but the shipper says the sheets were arriving by truck with frequent dents and other defects produced in highway handling. So far, he's had no signs of any such damage when the shipment is made TOFC. In this case, a small amount of his total traffic was switched over to the Seaboard's "Razorback" service on a trial basis several months ago. That small percentage has grown to more than 75% because of the railway's successful handling of the product. It will go even higher if rate adjustments now under consideration can be made.

Perhaps the biggest single tonnage out of the Birmingham area, however, consists of cast-iron pressure pipe. Until it was brought back to the rails by TOFC service, just about 100% of this was moving over the highway, since trenchside delivery could be provided. The pipelines, of course, even the relatively small ones laid from a small town's utilities to a new plant somewhere beyond the existing extent of the utilities, involve a minimum of several miles as a rule. As many as 30 carloads of pipe have gone out of Birmingham on the TOFC fast train on one night.

● **How it's done.** As a rule the pipelines extend far beyond the railway's nearest siding. But, through the loading of pipe in TOFC service, the trailers can be run down the temporary ramps at destinations and then the pipe can be laid along the roadside in trenchside delivery. One shipment of ten miles of pipe was to parallel the Seaboard between two towns in Florida. The five-mile limit was adhered to by delivering half the pipe to the station on the southern end, making the trenchside delivery up the road for five miles, then moving the temporary ramp to the north end station and laying the trenchside pattern south from there to a meeting point at the halfway, or five-mile, mark.

Talking with Seaboard's TOFC people and also with the industrial traffic managers in the Birmingham district, reveals that a great deal of ingenuity and cooperation has gone into the production of 3,000 additional carloads per year out of the Birmingham area—all of which was taken from highway transportation.

Robert Mott, general manager freight sales, and Thomas Cash, manager TOFC traffic, for the Seaboard, are interested in new business, rather than merely putting tons on TOFC by taking them out of box cars. Therefore, they are directing a great deal of attention to the Birmingham area where there's practically a virgin field for recovery of freight traffic. With Edward Hobbs, the assistant freight traffic manager at Birmingham, they work closely with the industrial traffic managers, but it's freight selling in a manner unheard of only a few years ago. The shipper isn't merely asked to route a couple of cars via Seaboard for "old times' sake." He's told in chapter and verse—and in dollars and cents—just how much grief he can avoid by using the rails and how much less it's going to cost him. If the proposed plan II½ is worked out, TOFC iron and steel traffic will take a big jump. Even if it is not put into effect, the Seaboard's ingenious sales staff (all of them ardent researchers into just what this fine new tool—TOFC—can do for the railway) will still increase that already substantial 3,000-car figure in 1966. ■



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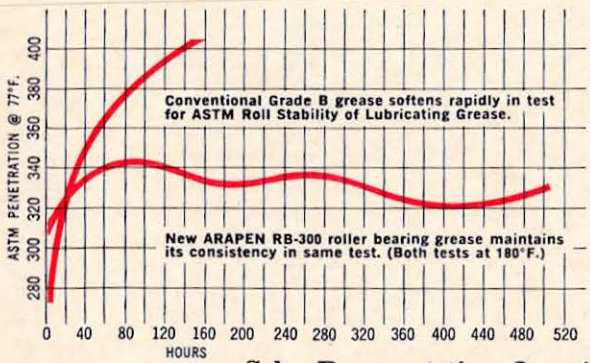

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E-L calling it quits on name train

"Trains need people, but apparently people no longer need trains—at least not enough people are using the trains to pay the cost of operating them." And for this reason, says the Erie Lackawanna, it has petitioned the Interstate Commerce Commission for authority to drop the famed "Phoebe Snow," for years E-L's first-class showcase train between Hoboken and Chicago.

The road estimates that it can save about $1.8 million annually by discontinuing trains 1 and 2 ("Phoebe Snow") and connecting trains 21 and 22 between Hoboken and Binghamton via Port Jervis, N.Y.

• **A good try, but . . .** A. G. Oldenquist, E-L general passenger traffic manager, said that despite the road's efforts to build up traffic by using top equipment on the "Phoebe Snow," patronage has steadily declined.

He said that in the summer of 1963 sleeping car service was restored between Hoboken and Chicago after having been available only between Elmira and Chicago for some time; the observation lounge cars were returned to service between Hoboken and Youngstown after having been placed in storage for several years; dining cars were refurbished and runs were extended to operate the entire distance; and from time to time all the passenger coaches were renovated. But passenger riding has been disappointing.

E-L says it's decision to discontinue the trains was made with reluctance.

"We regret, as much as anyone, having to take this action because it is just another indication of the gradual disappearance of railroad passenger service which was once such a vital and necessary part of the American travel scene," the road said in a statement.

"Instead of cutting back on the number of passenger trains being operated, we would much prefer to operate more trains if they could be made profitable as we have ample track capacity to do so; however, since the public is being lured away from the railroads by government policies which encourage greater use of private automobiles, buses and airplanes, rail management has no recourse but to move toward abandonment of services which do not produce the revenues needed to cover expenses." ■

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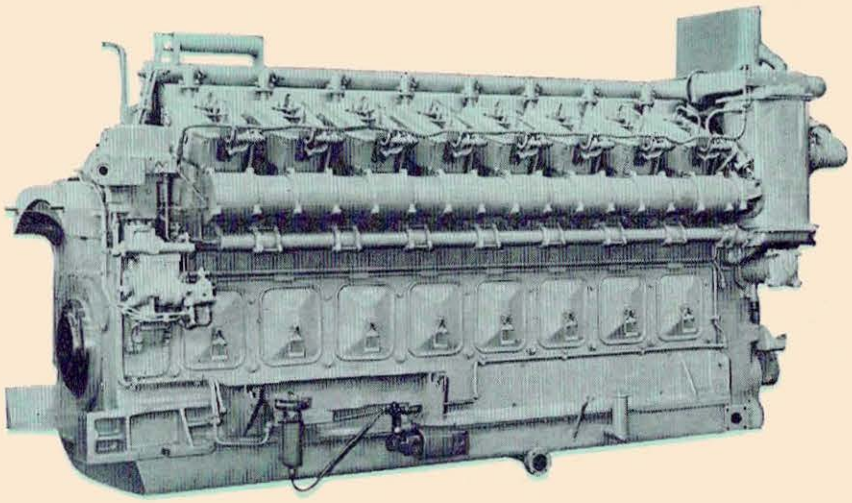

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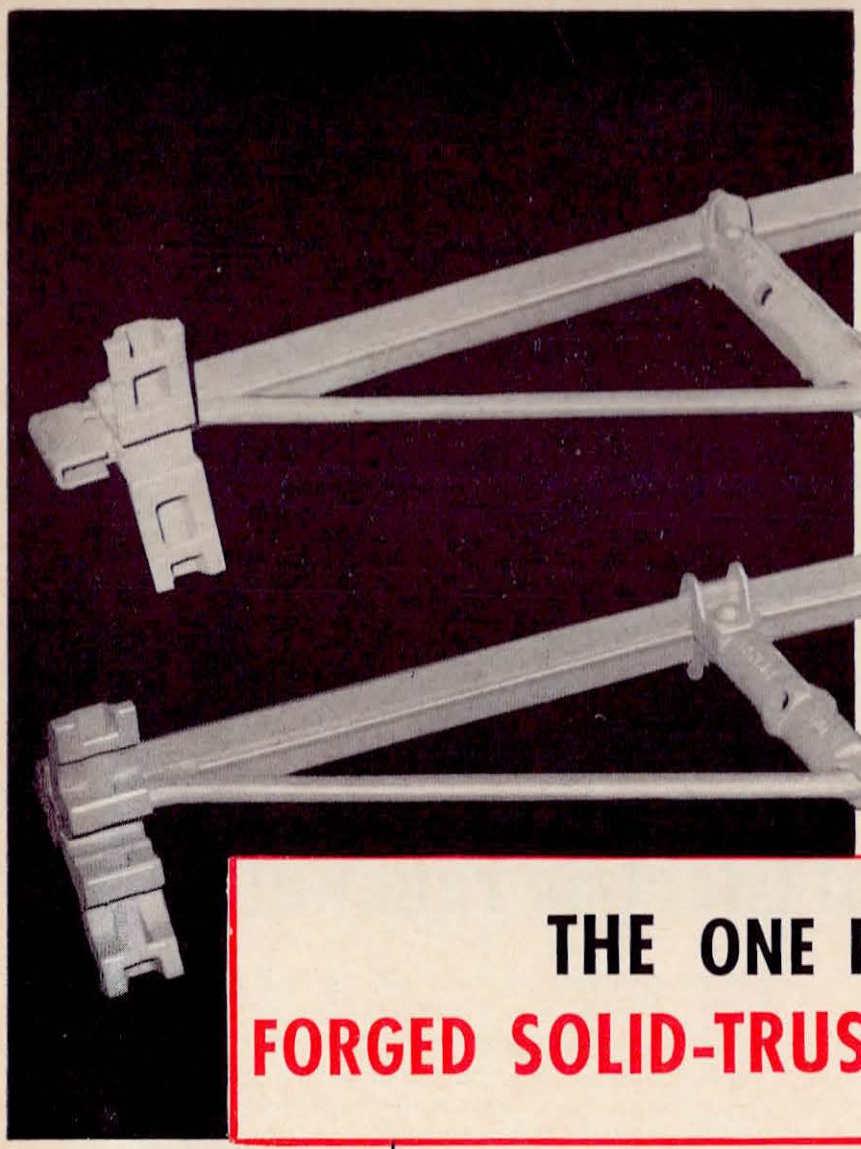

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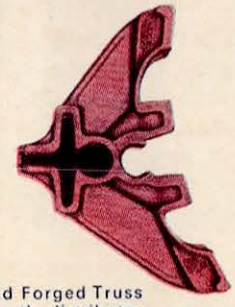

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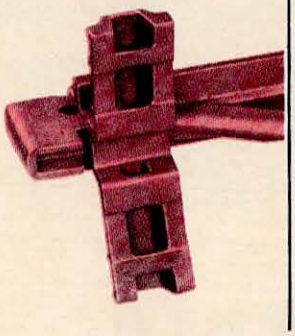

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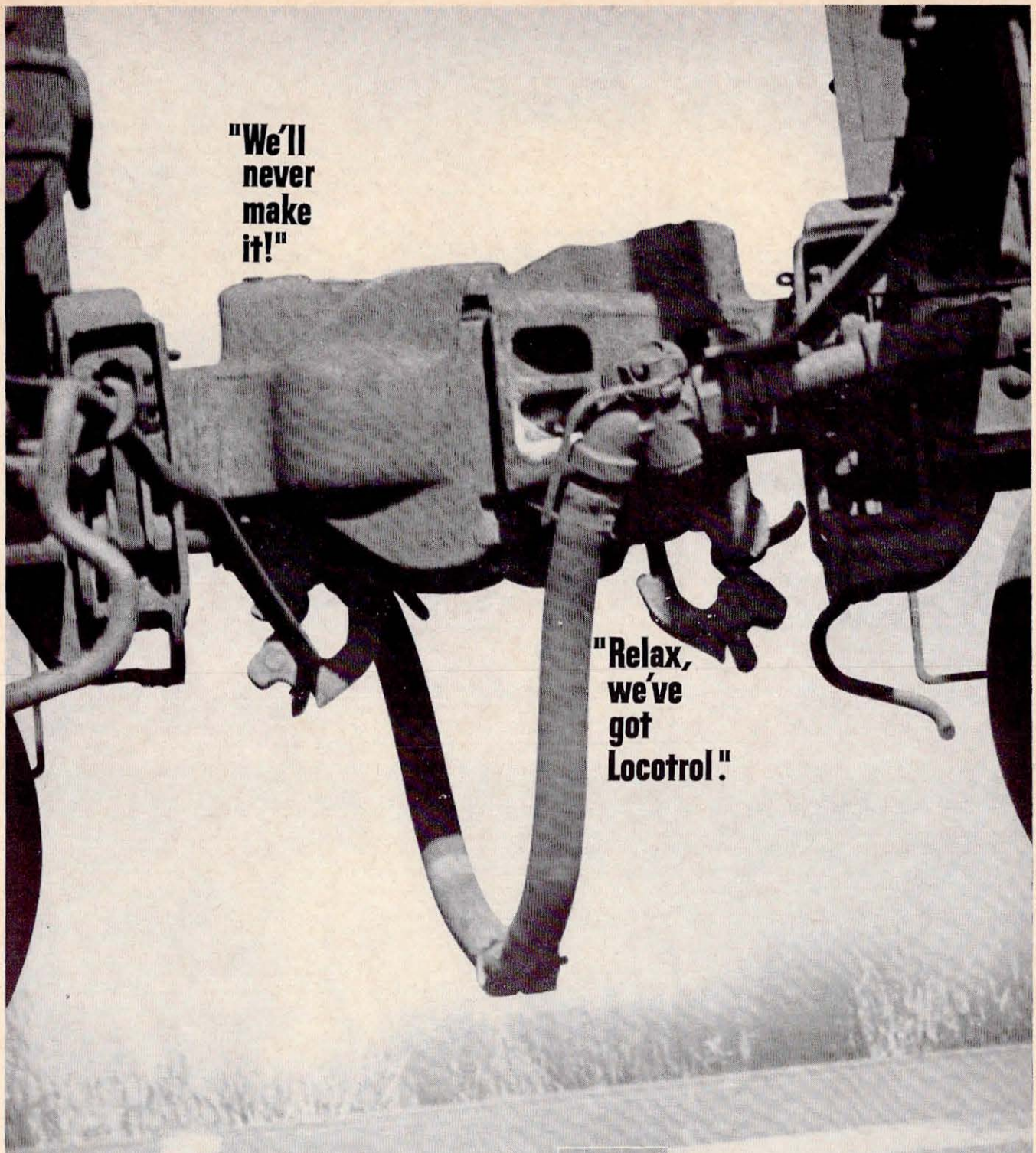

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Northeast Corridor test results will be crucial

How vital is the Northeast Corridor program to the rest of the country? Mighty important, according to the ICC Vice Chairman, Commissioner William H. Tucker.

In a speech delivered in Boston before the American Institute of Aeronautics and Astronautics, Tucker stressed that the success or failure of the corridor project will have a widespread impact on the nation as a whole:

"If this program accomplishes what is hoped for it, the groundwork will have been laid for the initiation of similarly patterned programs for other important passenger corridors connecting major cities across the country. The precedential nature of the project is therefore very apparent."

Aside from the strip of land on the Eastern Seaboard stretching from Washington to Boston, demographers have identified other growing urban clusters between Jacksonville and Miami, between Pittsburgh, Cleveland and Detroit, between South Bend, Ind., and Milwaukee, and between San Francisco and Los Angeles.

Referring to the Northeast Corridor itself, Tucker said, "To my mind, a demand basis for the program's success already exists—and by success, I mean the stimulation of a better level of rail service along the Corridor, the acquisition of new knowledge about passenger travel patterns in the Northeast, and the establishment of sound technical and operational guidelines for similar programs in other areas of the country."

● **Out with the old.** According to Tucker, the way for a new era in rail travel cannot be cleared until "the ghost of rail passenger service past" is laid to rest.

But the new era, he thought would probably emphasize service in select corridors. "Possibly it will offer a variety of service classes appealing to such distinct categories of the travelling public as vacationers, businessmen, long-distance commuters, and students. Most foreseeably, it will be much faster, safer, more economical, and more comfortable than rail passenger service as we have known it in recent decades."

The Commissioner's key phrase for this type of operation is that services have to be essential: "Working together, the industry and public authorities will have to weed out unnecessary and uneconomical passenger services now being performed by the carriers, and at the same time must plant the seeds for the establishment, maintenance and improvement of those essential services which are justified by public need, public support, competitive circumstances, and technological developments."

Given that condition, he found, "this new system will not be a financial burden upon private industry and public authorities: Rather, it will be a viable and valuable asset, ranking alongside America's excellent air and highway networks as a basic transportation resource."

How certain an eventuality is this? Said Tucker: "If the available evidence can be accepted as a fair indication, I think we are on sound ground in concluding that a real public demand exists for this kind of intercity travel alternative . . . I must make clear my opinion that from the standpoint of revitalized rail passenger services in the Northeast Corridor, the competitive aspect is extremely promising." ■

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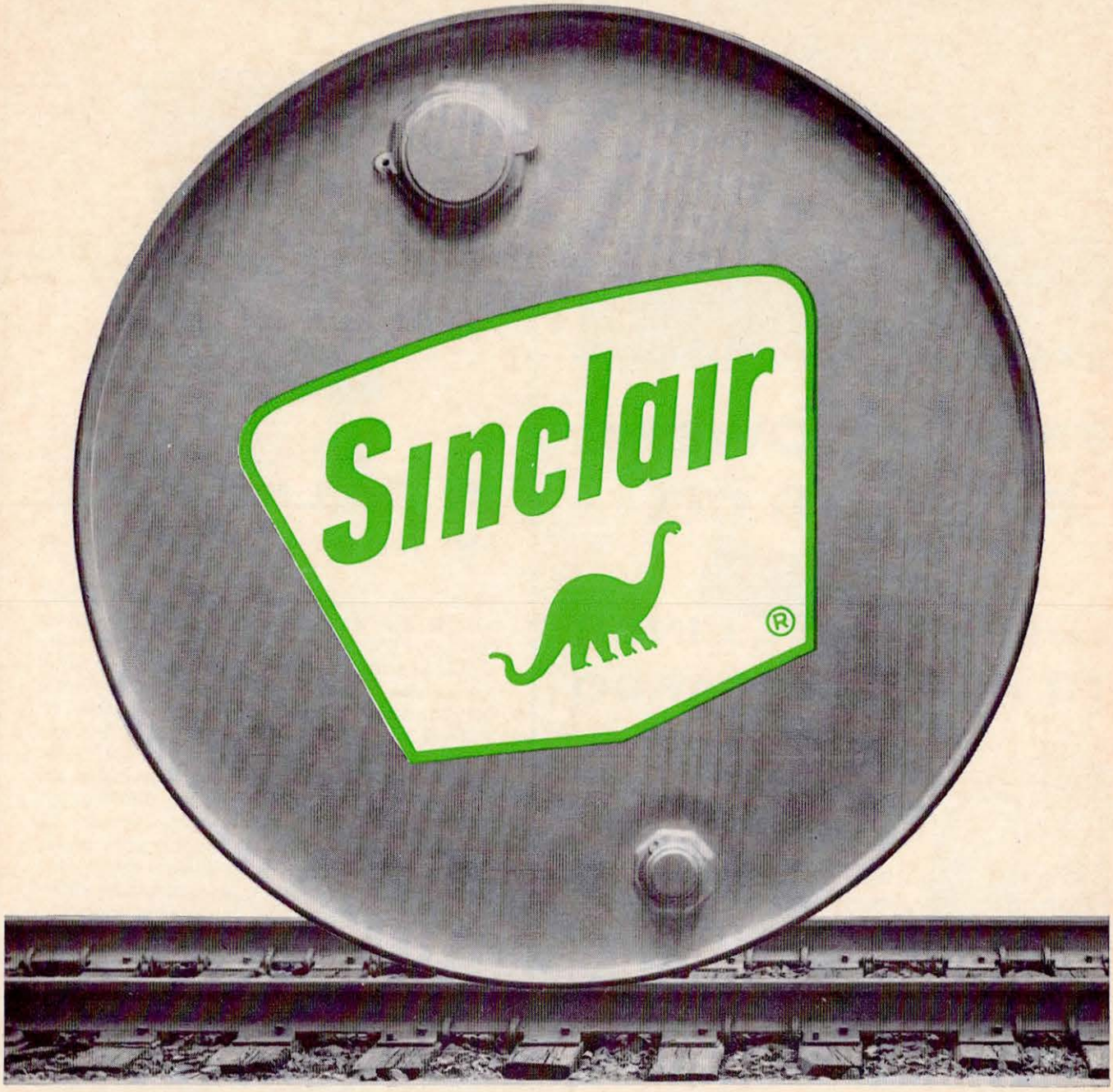

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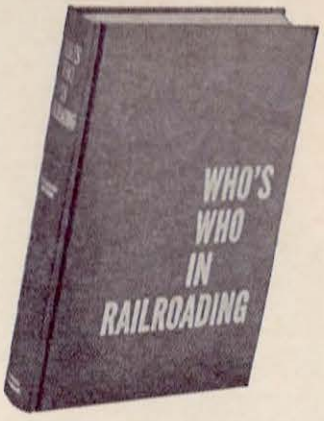

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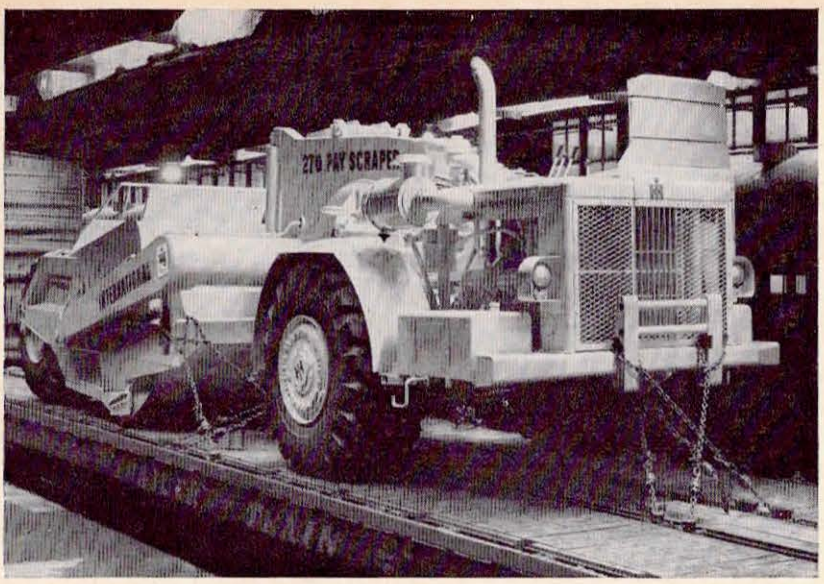

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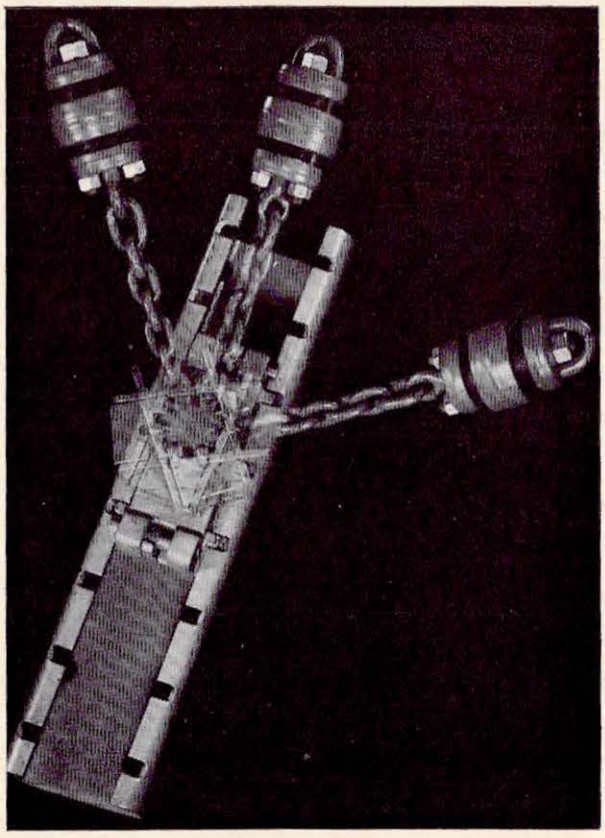

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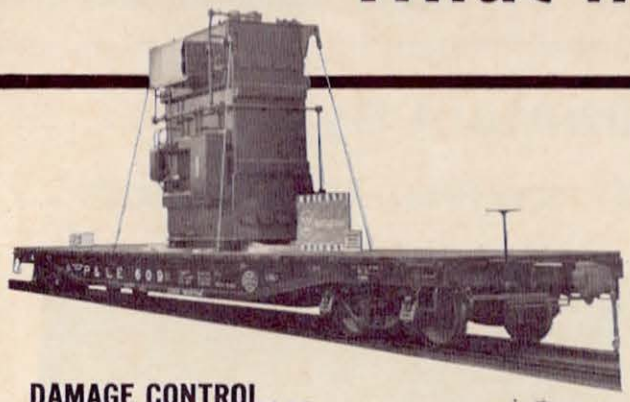
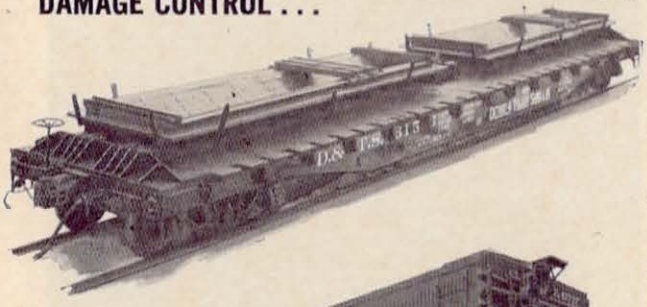
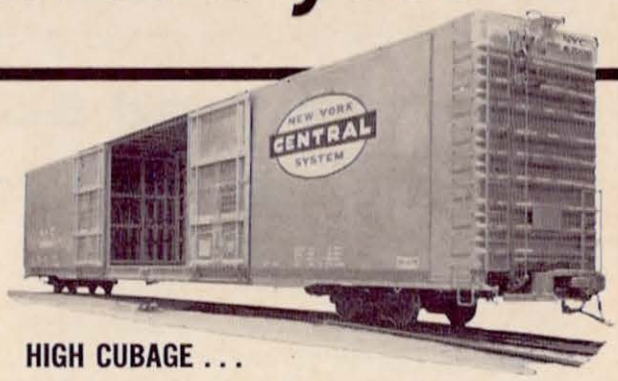


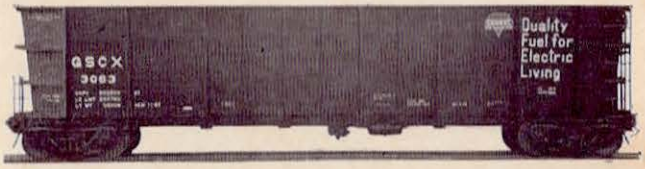
DAMAGE CONTROL . . .

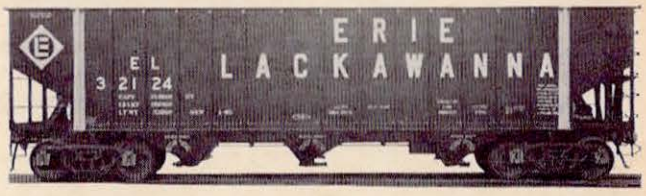




HIGH CUBAGE . . .

UNIT TRAINS . . .





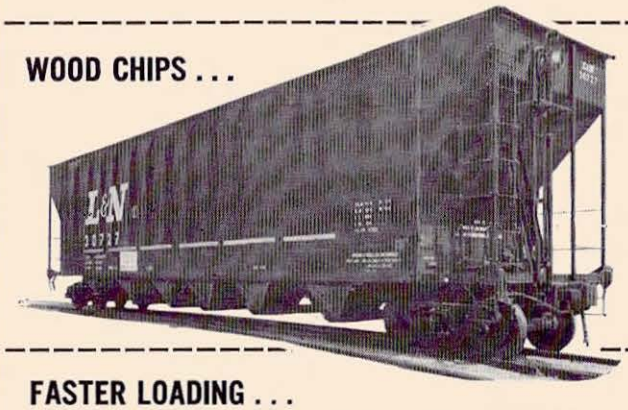
can make a big difference.

HIGH DENSITY...

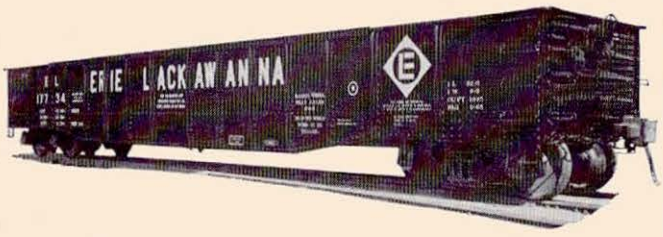
TENELON...

BIGGER PAYLOADS...

WOOD CHIPS...



FASTER LOADING...



All of these cars rolled off the big Greenville lines during the past year. They represent the rare combination of versatile car designs and production skills which make Greenville an uncommonly good place to start in selecting the best car for the job. A car doesn't have to be a special to be efficient. A Greenville modified standard may do the job just as well. What will help you most? Talk to Greenville about it. The answer may already exist.

GREENVILLE

STEEL CAR COMPANY
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

Circle 40 on reader service card

SOUTHERN RAILWAY'S CUSTOMER SERVICE ENGINEERING GROUP AND MODELS OF CUSTOMERIZED EQUIPMENT AT WORK ON SOUTHERN TODAY.

C. E. Shaw, Manager, with "Super-Cushion" car

W. H. Fletcher, Special Equipment Engineer, with "All-Door" car

F. A. Matthews, Materials Handling & Packaging Engineer, with chain-tiedown lumber car

L. L. Waters, Director, with "Big John"

D. H. Noble, Special Equipment Engineer, with TTX car carrying two rail-highway containers

O. V. Otwell, Assistant Manager, with tri-level auto car

J. T. Roberts, Special Equipment Engineer, with "Silversides"

J. A. Johnson, Manager, with "Big Boy"

When it comes to spending your money...

The men of Southern Railway's Customer Service Engineering group are a tight-fisted crew.

Their specialty is saving shippers money through car design and utilization . . . materials handling . . . distribution and inventory control. Working closely with Southern Railway customers, they develop money-saving transportation services that meet individual shipper needs in these areas.

Packaging techniques, loading and unloading procedures, requirements of time and cost . . . these and other factors are carefully examined for new combinations of service, price and equipment, or for totally new transportation concepts and car design that can eliminate waste and result in lower total cost to shippers and their customers.

Put this cost-conscious crew to work saving *you* money; call the Southern Railway sales office nearest to you. Or, contact L. L. Waters—Director, Customer Service Engineering, Southern Railway System, P. O. Box 1808, Washington, D. C. 20013; telephone area code 202/628-4460.

Southern Railway System

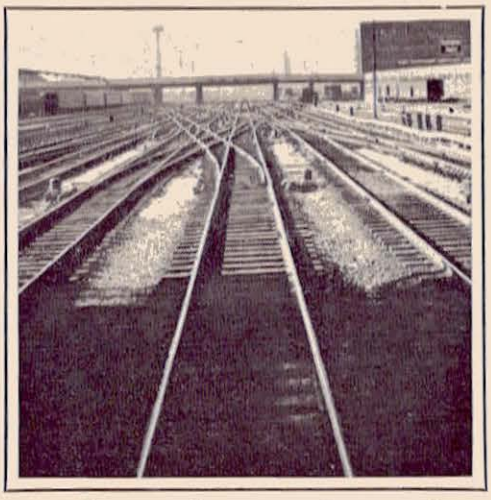
WASHINGTON, D. C.

SOUTHERN RAILWAY SERVES THE SOUTH

LOOK AHEAD-LOOK SOUTH

Circle 41 on reader service card

Lou Menk says railroads should get out of the railroad business.



Who does he think he is?

He's the number one wheel on the Burlington Railroad.

Our new president has a point there.

Movies aren't in the movie business. They're in the entertainment business. Magazines aren't in the print and ink and paper business. They're in the communications business.

We're not in the railroad business. We're in the *distribution* business.

Mere semantics?

No. Much more than that.

It's an attitude that forces us to think of this railroad as an extension of the shipper's total distribution system. This gets us thinking about everything from raw materials and their handling to final production, packaging and profits.

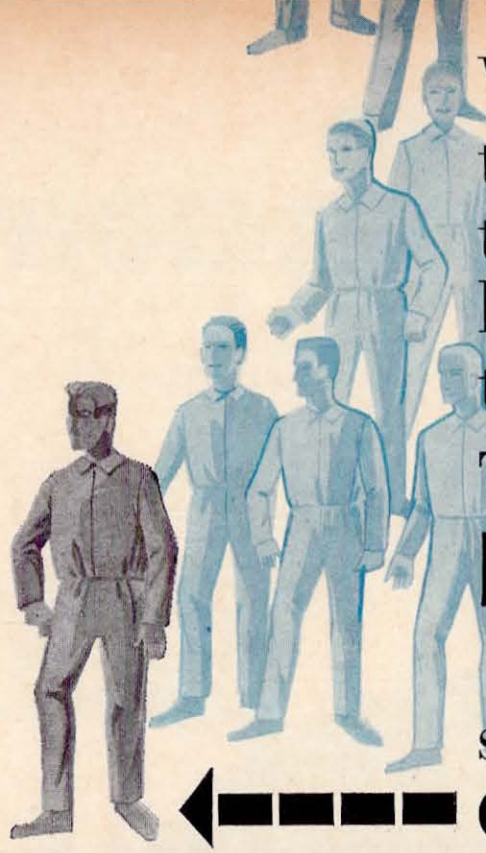
It compels us to use the very latest tools at our command. Like computers to ride herd on daily car movements. Electronic controls that move freight with pipeline dependability.

Gone are the days of Casey Jones. This railroad is changing.

Of course Lou Menk wouldn't have us turn our backs on railroading lore. But the lure of up-to-date ideas... that's what really counts.

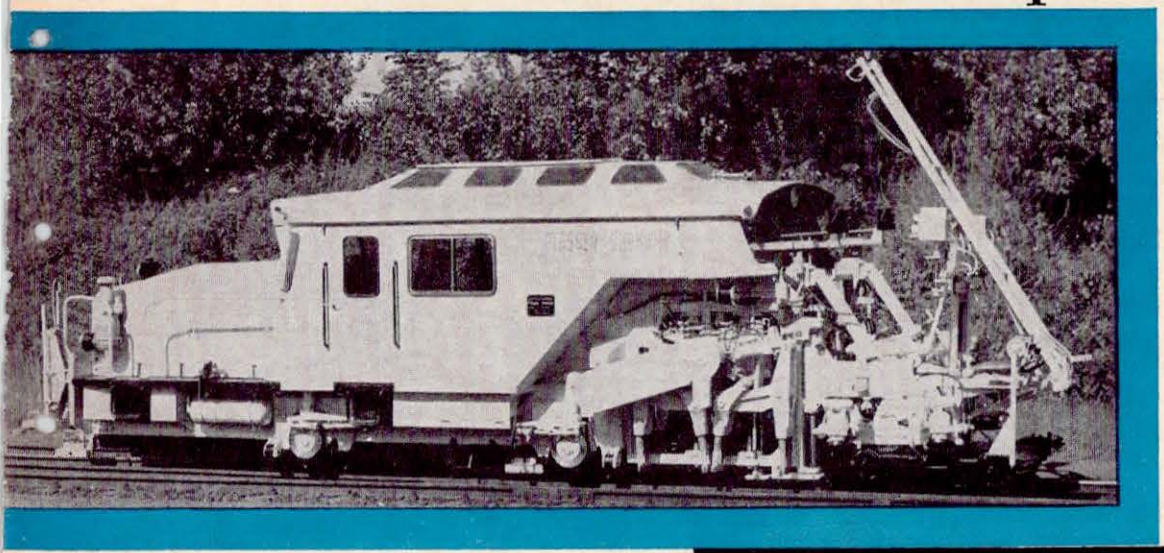
Burlington Lines: Chicago, Burlington & Quincy Railroad Company; The Colorado and Southern Railway; Fort Worth and Denver Railway.

Circle 51 on reader service card



Where could you find the Worker who tamps, levels, lifts, and lines OVER two miles per day?

The **PLASSER DUOMATIC 06-32L** solves this problem by One-Man-Operation.

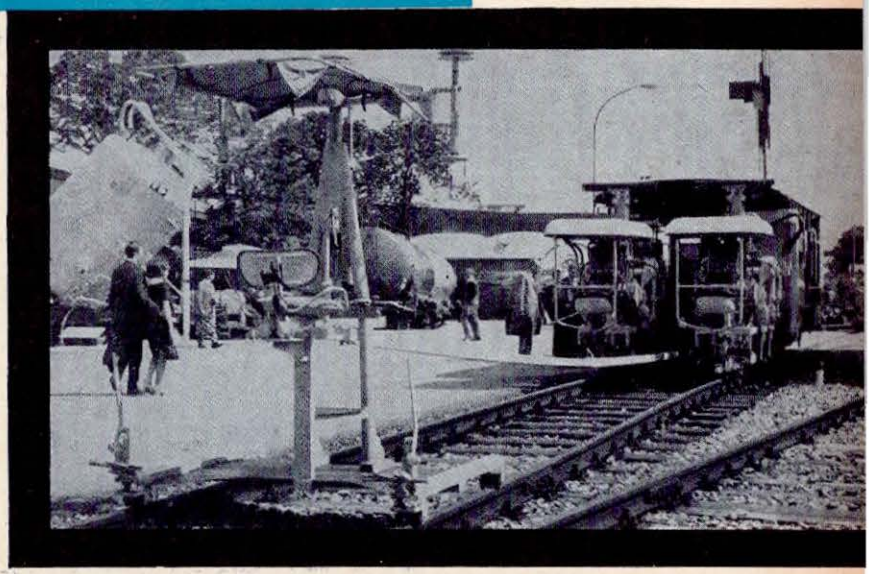


Extremely short train intervals can be used because the **DUOMATIC** is quickly ready, it levels lifts, lines the track and tamps two sleepers in one cycle. This doubles the result achieved by the fastest levelling and tamping machine until now.

THE

PLASSERMATIC 275,

a heavy, universal Levelling and Tamping Machine for all types of track, all switches and crossings, solves the man-power problem. It is the first switch-and-crossing tamping machine which levels, lifts and tamps. For switches and crossings, large groups of track men are now unnecessary for the levelling and lifting, eliminating the use of expensive lifting jacks.



FOR COMPLETE INFORMATION, WRITE OR CALL

Plasser Railway Maintenance Corporation
2 North Riverside Plaza
Chicago, Illinois 60606
Phone: (312) 263-2829

Plasser Machinery Corporation Limited
2705 Marcel St.
Montreal 9, Quebec
Phone: (514) 748-6761

THE END OF THE SLOW FREIGHT.

Here it is.
The most powerful single-engine diesel ever built.
We've put 60 of these super freight locomotives in service,
and we plan to buy more in '66.
It all boils down to one thing:
faster, more dependable schedules with more efficient handling.
Who says railroads are slow to make the grade?
Not us. We've been working on our railroad.

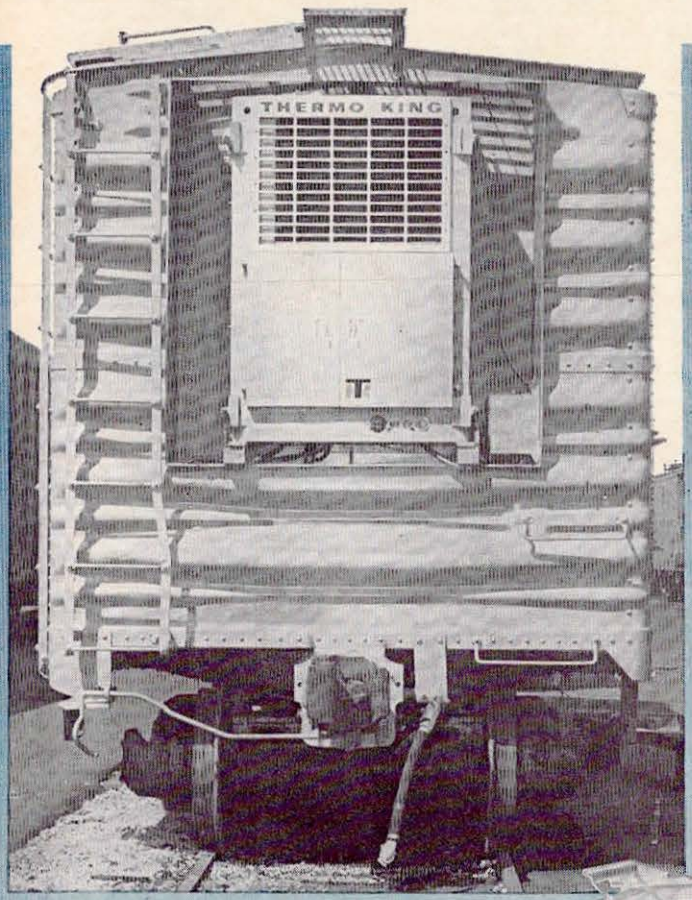
ATLANTIC COAST LINE RAILROAD

Circle 43 on reader service card

◀ Circle 17 on reader service card

THERMORATED*

THERMO KING Model NWD INCREASES PAYLOAD SPACE 15% IN ICE BUNKER CAR CONVERSION



- Increases interior length from 33′ to 38′ to add 274 extra cubic feet in 40′ ice cars.
- A one-piece factory-tested unit, ready to run when shipped.
- Unit is simple to install and easy to service.
- Powered by rugged, dependable Mercedes-Benz diesel.
- Offers full range temperature control from −20°F. to 80°F.
- All components specially built for roughest transport conditions.
- Electric power standby option is available.
- A super capacity system that will easily handle 50′ cars as well.

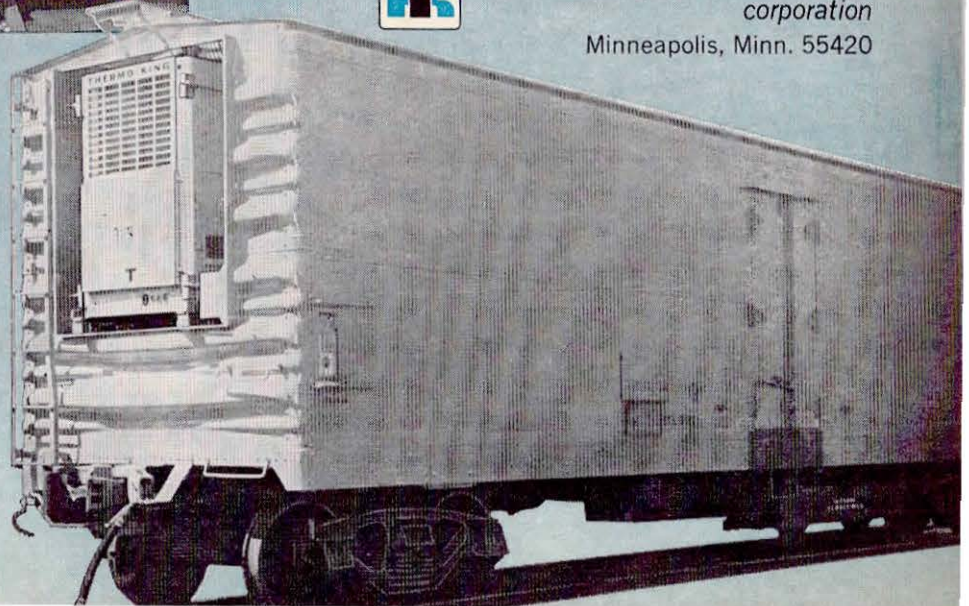
Up front mounting of NWD system offers operational advantages. Condenser is cooled by unobstructed flow of clean air. Unit occupies no floor space, and only a few feet of cargo space. It is economical to operate under all types of transport conditions.

World Leader in Transport Refrigeration

THERMO KING
corporation
Minneapolis, Minn. 55420

Only THERMO KINGS are
*** THERMORATED**

- **VERIFIED PERFORMANCE**—Rated capacity with assured reliability
- **JOB ENGINEERED**—Developed for a specific requirement
- **TOTALLY "BUILT-FOR-TRANSPORT"**—Custom components with rugged durability
- **SERVICE/PARTS PROTECTION**—Factory authorized dealers everywhere



"Sure glad Seaboard had the answer again... it's all in the day's work."

If you ship to and from the Southeast, your local Seaboard representative is a good man to know and use in your business. Not only can he answer your questions about rates, service and equipment immediately, but he goes "right to the top" if you have a special problem that Seaboard can solve, and gets back to you fast with the solution.

Get acquainted with a man who isn't satisfied with stock answers; who takes a real interest in your business and wants to see you "Seaboard it" every time. He's in your phone book.

IN THE SOUTHEAST IT'S

SEABOARD
RAILROAD

THE ROUTE OF COURTEOUS SERVICE

Circle 42 on reader service card

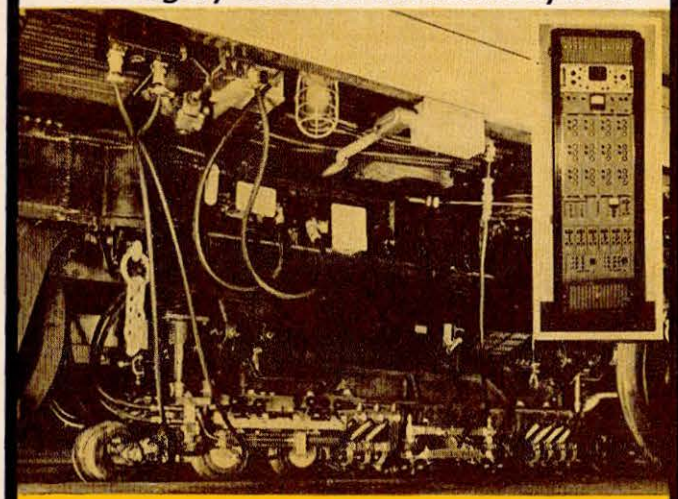
◄ Circle 44 on reader service card

here comes
our new car
a fully equipped compact*

this new car has everything, engineered by Sperry to improve rail testing efficiency.

* Single diesel engine concept • Latest modular designed induction equipment • light weight, almost one half the weight of present fleet cars.

plus our new highly efficient ultrasonic system

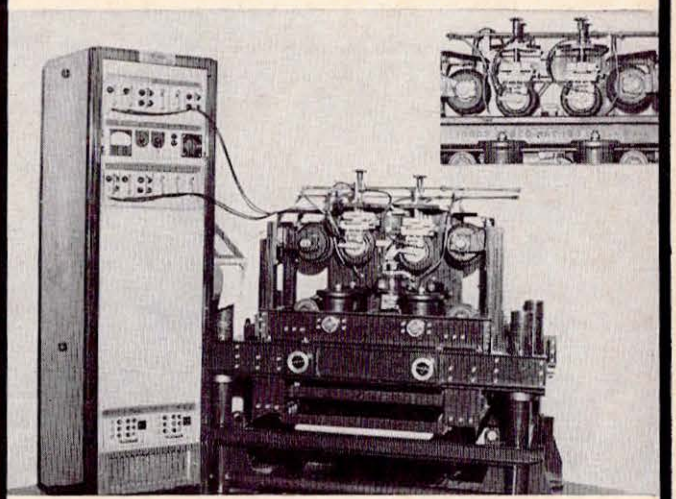


Car 140's advanced testing equipment will be installed on all of the SRS fleet within the next two to three years.

Write for full details on the new car or test stand.

introducing new sperry rail test stand

Out-of-Track, on-Site Rail Testing • All Ultrasonic Detection Equipment • Self Guided Mechanism for all rail weights • Automatic permanent recording of Rail Defects • Easily transportable from site to site.



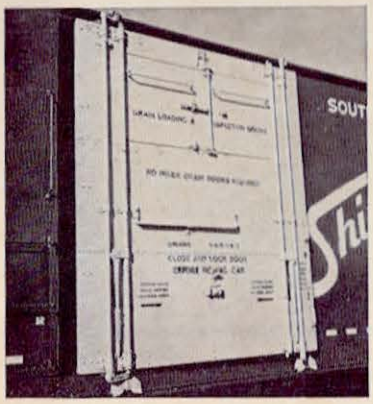
SPERRY RAIL SERVICE

A DIVISION OF AUTOMATION INDUSTRIES, INC.

General Offices • Danbury, Connecticut 06813

Circle 46 on reader service card

EVANS SUPERIOR CAR DOORS



Evans Superior plug doors—promote lading protection through extreme gasket tension—assure lock-free rolling—are designed to keep damage repair cost to a minimum—fit flush with inside wall of the new single sheathed cars.

Evans Superior single and double sliding doors offer strength and weather protection through their rigid "baffle" construction. They are tight sealing—built to shed water. A smooth interior—light weight—free rolling door for easy one man operation.

PART OF EVANS FULL CIRCLE OF SERVICE TO RAILROADS AND SHIPPERS

evans

SUPERIOR CAR DOORS

1928 W. 46th Street, Chicago, Ill.

Circle 47 on reader service card

Supply Trade

Parr Paint and Sealants Inc., Cleveland, has appointed **Harbil Inc.**, Chicago, as its national sales agency for the railroad field.

Richard B. Raichart has been appointed sales manager, commercial and railroad products, **Grip Nut Co.**, subsidiary of Heli-Coil Corp., South Whitley, Ind. He formerly was distribution manager for both Heli-Coil Products Division and Grip Nut Co.

Earl C. Ward has been named district sales manager for railroads, **Duff-Norton Co.**, at Chicago, succeeding the late **Edwin Gunther.**

Jerome Slater, vice president, **Container Transport International Inc.,** will serve concurrently as president of **Container Leasing Corp.,** which leases containers to carriers and shippers on a per diem, per trip, or per year basis. **Benjamin D. Bernstein,** treasurer of CTI, will serve concurrently as president of **Container Operations, Inc.,** which manages the company's modern terminal facilities at Port Newark, N.J.

Whirlpool Corp. has announced formation of a new company, **TransFresh Corp.** which will provide Tectrol atmosphere systems for the transportation of fruits and vegetables in the United States, Canada and Mexico. Chief operating executives of the new company, headquartered in Salinas, Calif., are **James R. Lugg,** president, and **Robert E. Grahner,** vice president and secretary. Mr. Lugg had been handling Tectrol sales for M-C-T Enterprises, which had been Whirlpool's sales agent for Tectrol atmosphere in the shipping of lettuce. Mr. Grahner had been manager of operations for Whirlpool's Tectrol transportation system in Sunnyvale (RA, April 11, p. 7).

Harold G. Strickland has been named branch manager and **Charles B. Chenoweth,** sales representative of a new sales office and warehouse which **L. B. Foster Co.** will open in New Orleans, La., on July 1. Mr. Strickland was formerly sales representative for all products and manager of rail products and Latin American branches. Mr. Chenoweth has been with Foster for four years as a field specialist and sales representative.

Corporate headquarters of **General Steel Industries, Inc.,** located since 1948 at Granite City, Ill., will be moved to Gateway Tower, St. Louis, Mo., upon completion of the building under construction at Third and Market Streets.

Shareholders of **Nationwide Leasing Co.,** Chicago, have approved changing the company name to **Nationwide Industries, Inc.** The Nationwide Leasing Co. name will continue to be used to identify the long-term general equipment leasing division of the newly-named parent company.

Willard E. Kemp has been appointed manager of product planning, **Shippers' Car Line division, ACF Industries, Inc.** Mr. Kemp will coordinate product planning with marketing of railroad products.

Nickolas C. Eckerle has been appointed to the newly created position of manager, Process Chemicals, Transportation Division, **Nalco Chemical Co.**

David J. Laudig has been appointed project director, railroad products, product development division, **Reynolds Metals Co.** Mr. Laudig had been product development engineer, Callaway Mills Co., LaGrange, Ga., for the past six years, prior to which he was mechanical engineer, **Reading.**

Richard P. Thorn, technical specialist, **Lord Manufacturing Co.,** Erie, Pa., has been promoted to manager of engineering research.

New York Air Brake Co.—Railroad Sales, has announced retirement of **Glenn A. Thompson,** sales engineer, New York. Effective July 1, **J. J. Carney, Jr.,** district manager, St. Louis, succeeds Mr. Thompson, with the title of manager, field engineering, New York. **R. S. Brown,** field representative, Cleveland, Ohio, promoted to district manager. **M. A. Scott,** field representative, Chicago, transferred to the St. Louis district office.

Current Publications

BULLETIN No. 114. 78 pages, illustrations. The Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston, Mass. 02163. $2 to members; $3 to nonmembers.

1966 CAR AND LOCOMOTIVE CYCLOPEDIA OF AMERICAN PRACTICE, compiled and edited by C. L. Combes for the Association of American Railroads-Mechanical Division. 1214 pages, illustrations, drawings. Simmons-Boardman Publishing Corp., 30 Church St., New York, 10007. Prices to railroad men on request; $20 to others.

THE METROPOLITAN TRANSPORTATION PROBLEM, by Wilfred Owen. A Brookings Institution study, revised edition, 266 pages. A Doubleday Anchor Book; Doubleday & Company, Inc., Garden City, N.Y. $1.45. Also available in hard covers from the Brookings Institution, 1775 Massachusetts Ave., Washington, D.C.

CINCINNATI LOCOMOTIVE BUILDERS, 1845-1868, by John H. White. 167 pages, illustrations, drawings. Smithsonian Institution, United States National Museum Bulletin 245. Available from the U.S. Government Printing Office, Washington, D.C. 20402. $2.

Dividends Declared

ALLEGHENY & WESTERN.—Guaranteed, $3, semiannual, payable July 1 to holders of record June 17.

ATCHISON, TOPEKA & SANTA FE.—Preferred, 25¢, semiannual, payable Aug. 1 to holders of record June 24.

BEECH CREEK.—Guaranteed, 50¢, quarterly, payable July 1 to holders of record June 15.

CANADA SOUTHERN.—$1.50, semiannual, payable Aug. 1 to holders of record July 11.

DELAWARE & HUDSON.—35¢, quarterly, payable June 28 to holders of record June 10.

NORTHERN PACIFIC.—65¢, quarterly, payable July 29 to holders of record July 8.

PITTSBURGH & LAKE ERIE.—$1.50, quarterly, payable July 15 to holders of record July 1.

PITTSBURGH, FORT WAYNE & CHICAGO.—Preferred, $1.75, quarterly, payable July 5 to holders of record June 10.

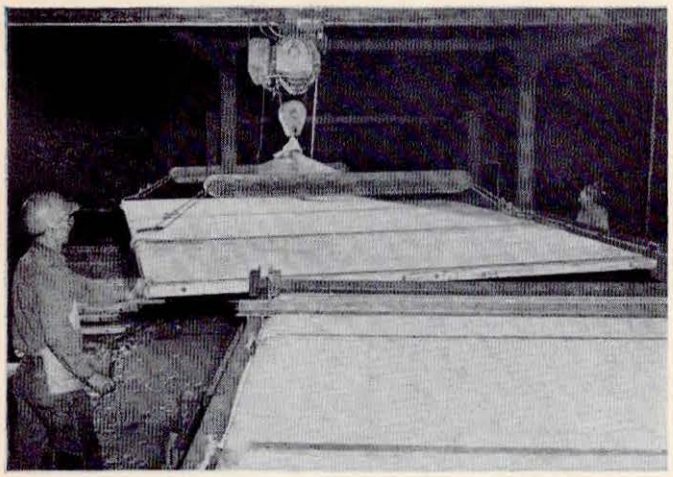
RICHMOND, FREDERICKSBURG & POTOMAC.—common, $1.50, quarterly; 6% Guaranteed, $1.50, extra; 7% Guaranteed, $1.25, all payable July 1 to holders of record June 17.

SEABOARD AIR LINE.—45¢, quarterly, payable June 27 to holders of record June 16.

UNION PACIFIC.—45¢, quarterly, payable July 1 to holders of record June 6.

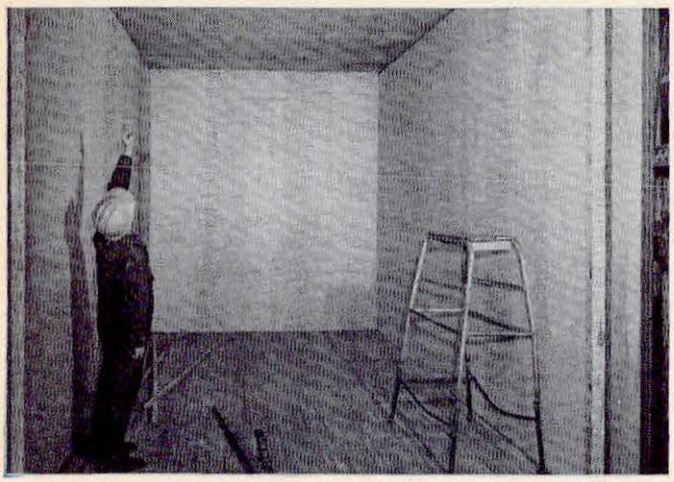
WESTERN MARYLAND.—40¢, quarterly, payable June 29 to holders of record June 20.

evans Freight Car Insulation Panels
engineered to your specifications

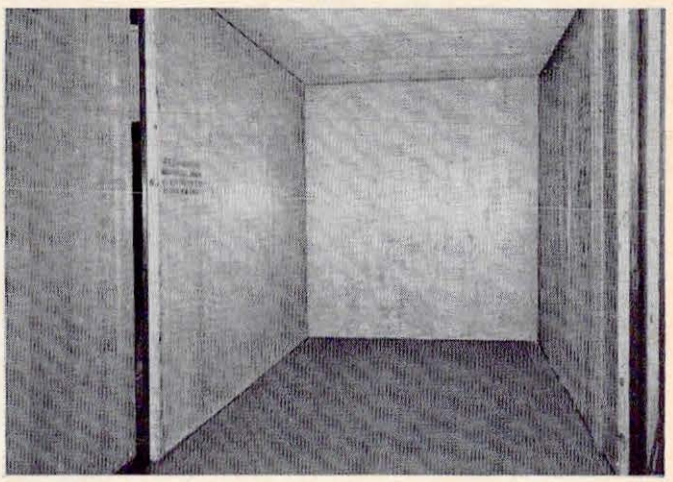


Lightweight, pre-engineered insulating panels can be easily handled, with a minimum of equipment.

Panel sections can be securely fastened with minimum time and effort.



Panels can be used in unequipped cars, or can be tailored to accommodate load protecting devices.



Walls, ceilings and floor surfaces are smooth and flush throughout the car for ease of loading and unloading.

Evans Insulation Panels used to line RB and refrigerated box cars:

Save Time: Panels are pre-engineered, pre-built to your requirements. Cut-and-fit time is eliminated.

Save Money: Evans Panels are pre-fabricated to your design. Save material and labor costs at time of installation.

High Quality Insulation of non-burning, rigid polyurethane foam results in "thin wall" construction, increasing useful cube of car. Foam will not settle, form "hot spots", nor lose insulating efficiency through moisture pickup.

Adaptable: Can be pre-engineered to accommodate damage prevention equipment and can be used in either interior or exterior post type cars.

For information and literature write:

evans

FREIGHT CAR LINER PANELS

701 Ann Street, N.W. • Grand Rapids, Michigan

Evans Full Circle of Service for Railroads and Shippers

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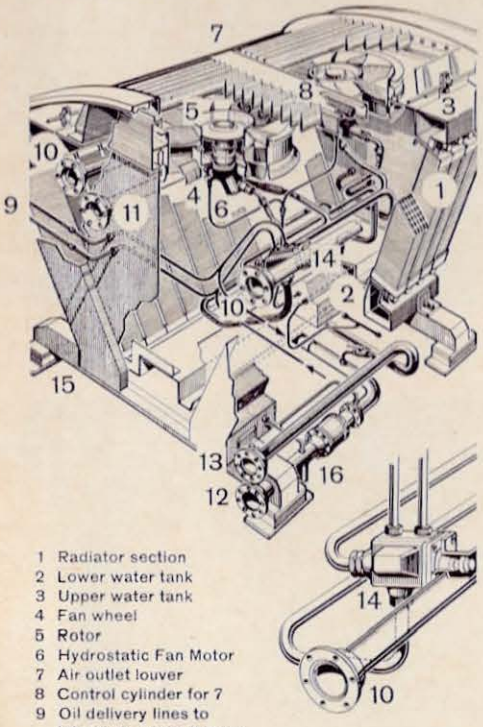
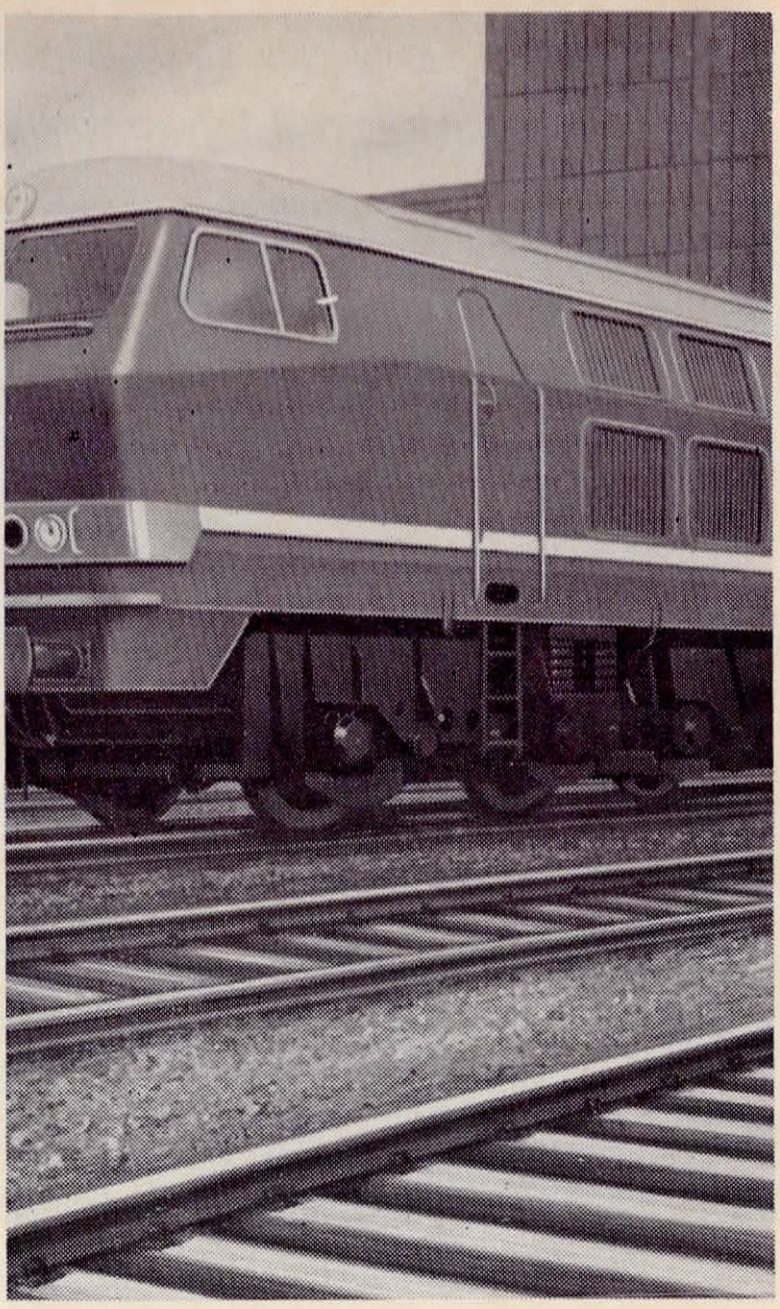
BEHR

Cooling Units with Hydrostatic Fan Drive



1 Radiator section
2 Lower water tank
3 Upper water tank
4 Fan wheel
5 Rotor
6 Hydrostatic Fan Motor
7 Air outlet louver
8 Control cylinder for 7
9 Oil delivery lines to lateral air intake louvers
10 Coolant inlet main circuit
11 Coolant inlet secondary circuit
12 Coolant outlet main circuit
13 Coolant outlet secondary circuit
14 Fan controller
15 Radiator support with elastic suspension
16 Check valve



BEHR

Sixty Years of Achievement

Back in 1905, Julius Friedrich Behr founded the "Süddeutsche Kühlerfabrik" in Stuttgart-Feuerbach, Germany. The company bearing his name has been serving the automotive industries for 60 years. Behr's perseverance in promoting technological advancement in the field of automotive cooling, heating and ventilation has won his company world-wide repute and made it rise to its present importance.

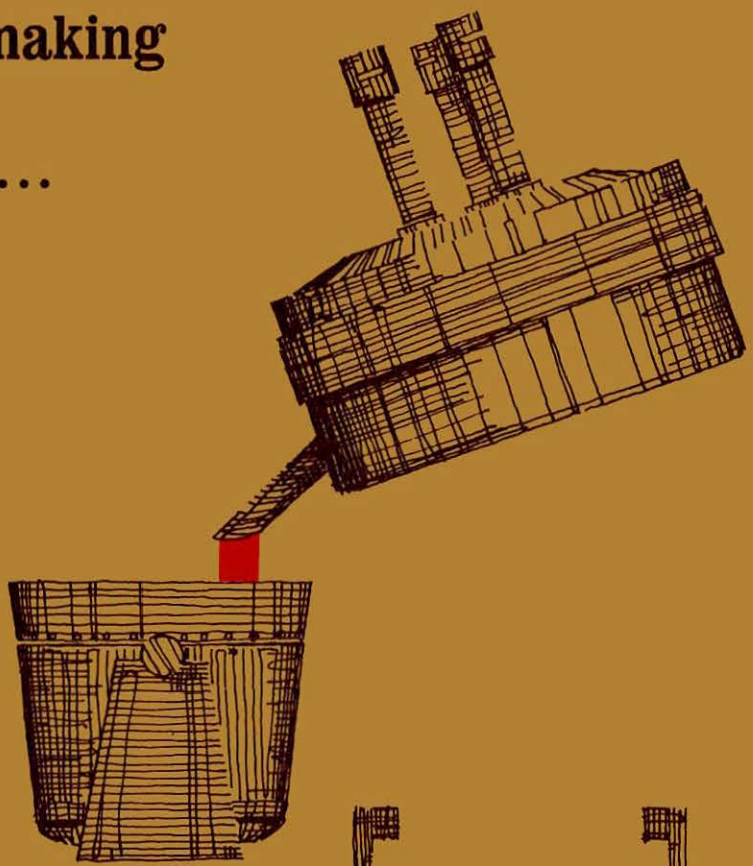
SÜDDEUTSCHE KÜHLERFABRIK JULIUS FR. BEHR 7 STUTTGART-FEUERBACH MAUSERSTR. 5

Circle 49 on reader service card

Circle 50 on reader service card ►

How Edgewater makes railroad wheels

We start by making steel of the proper grade...



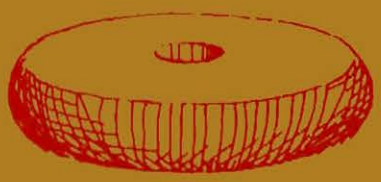
and pouring it into ladles...

and then into ingot molds.

This gives us ingots of cast steel · the basic material which we make denser, tougher and stronger by subsequent forging and rolling as described on the next page.

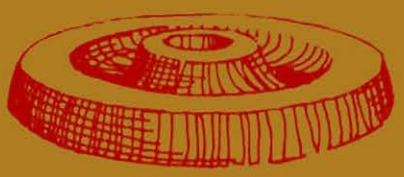
TURN THE PAGE

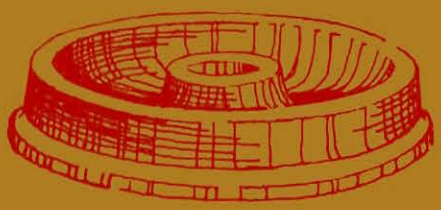
Edgewater slices cast ingots into blocks...



Each block is thoroughly heated and forged into a bloom...

then into a blank...





and hot rolled and dished. This forms the wheel.

Then the wrought steel wheel is heat treated, machined and thoroughly inspected. NOW-and only now-ready for service.

Why settle for less!

For half a century, railroads have been buying Edgewater wrought steel wheels. They have found the quality uniformly high, the service life measured in hundreds of thousands of trouble-free miles. Leadership in advanced metallurgical developments, and improved forging and rolling techniques have given Edgewater wrought steel wheels the extra stamina needed to withstand the heavy loads, high speeds and severe braking that are characteristic of modern railroad operating practice.

OUR 50TH YEAR OF SERVICE TO AMERICAN RAILROADS AND INDUSTRY
1916
E
1966

Edgewater Steel Company
P. O. Box 478, Pittsburgh, Pa. 15230

John B. Norwood, Jr.
D&RGW

Coy W. Holaway
L&N

PEOPLE

ATLANTIC COAST LINE.—**J. S. Taylor, Jr.,** appointed staff assistant to vice president—operations, Jacksonville, Fla.

K. H. Clark appointed district sales manager, Tampa, Fla. **J. M. Council** named general agent, Ocala, Fla.

R. A. Kent appointed assistant manager, Trailer-Train Service, Jacksonville.

CHICAGO & NORTH WESTERN.—**Robert T. Mack,** assistant general agent-lumber, Chicago, named general freight agent, Milwaukee.

J. D. O'Neill appointed superintendent car shops-system, Clinton, Iowa. **F. E. Cunningham** named assistant superintendent-car department, Chicago. **D. F. Dilgard** named staff assistant-car department, Chicago.

W. J. Kenney, manager of stores, retired Apr. 1 after nearly 48 years' service. **Robert A. Kipley,** central stores manager, named manager of materials, Chicago. **G. W. Ireland** named assistant manager of materials; **W. H. Goodhart,** materials control manager; **E. F. Kolley,** materials distribution manager; **B. R. Popiela,** diesel materials manager.

The following named trainmasters: **D. L. Rosenbam,** Twin Cities division, St. James, Minn.; **R. G. Kritenbrink,** Altoona, Wis.; **J. A. Zito,** Wisconsin division, Kenosha, Wis.

Rollins W. Coakley named passenger service officer, Chicago, to succeed **Leo W. Panfil,** who retires July 1 after 48 years of service.

CHICAGO SOUTH SHORE & SOUTH BEND.—**Harry E. Kline,** assistant auditor of freight revenue, appointed auditor of freight revenue, succeeding **Harold G. Flory,** who retired June 1, after 38 years of service. **Warner R. Bridwell** named assistant auditor of freight revenues.

COLORADO & WYOMING.—**John G. Burnett,** general track foreman, Pueblo, Wyo., appointed assistant superintendent, Middle Division. Mr. Burnett is succeeded by **Howard E. Wood,** maintenance of way clerk.

DENVER & RIO GRANDE WESTERN.—Communications, data processing and systems development functions have been combined into a department of management information services. **W. J. Day,** formerly manager, systems development, is director of the new department. **John B. Norwood, Jr.,** superintendent, Colorado division, named assistant vice president-operations, a new position. **W. J. Holtman,** chief mechanical officer, succeeds Mr. Norwood, and in turn is succeeded by **Paul D. Starr,** master mechanic, Colorado division. **John P. Spiess,** master mechanic, Utah division, appointed to the newly created position of master mechanic-system, Denver. **R. L.**

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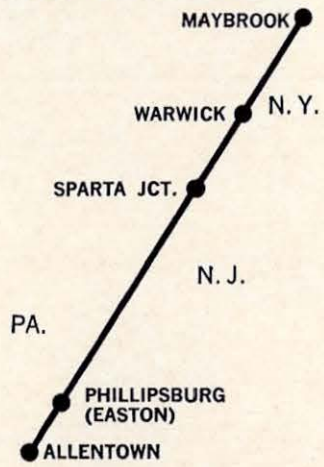

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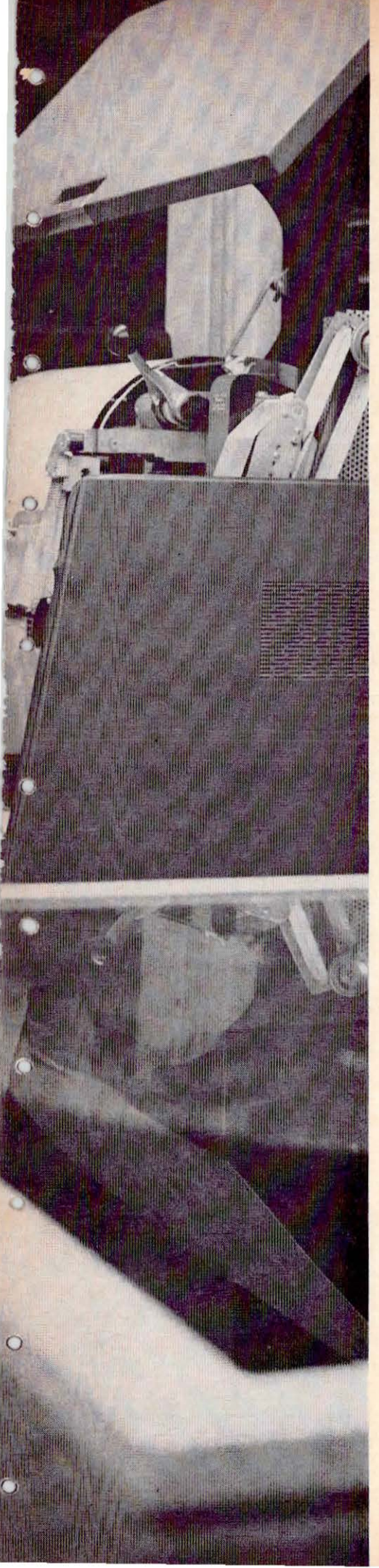

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The runs totaled 438,000 miles. Mountainous and level terrain. Both drag and piggyback service. All in one night.

Hypothetical? Only to the extent that one year was condensed into one night. The output was accurate. The data was all real. But instead of running Century 630's on the rails we ran them 438,000 miles on our digital computer.

Working from typical railroad source documents, the computer told us that 12 Century 630's would replace 22 old 1600-hp locomotives. That three of the new ALCO's could move 13% more freight than five of the old locomotives. That operating 12 locomotives instead of 22 would save the railroad 78% in maintenance costs (not including realized savings through elimination of major overhauls). Total fuel consumption would drop by 496,000 gallons. And the Century 630's would be operational at least 92% of the time.

Here's the savings picture in dollars and cents:

Moving additional tonnage	$ 502,100
Maintenance savings	395,900
Fuel and lube savings	54,500
Increased availability	69,900
Total savings	$1,022,400

An ALCO computerized Motive Power Study forecasts accurately—immediately—how Century locomotives will perform on your railroad long before you invest a dime in new equipment.

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Or maybe another of our 9 Century models is best for you.

There's an excellent way to find out. By having us do a Motive Power Study for you.

See if our computers can save you some real money some night.

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ALCO

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Jacobsen, director of data processing, named to the new position of director of transportation research.

FLORIDA EAST COAST.—J. E. Corbett, manager industrial development and real estate, St. Augustine, Fla., elected assistant vice president.

LOUISVILLE & NASHVILLE.—Coy W. Holaway, regional traffic manager, Louisville, named manager, freight sales there. **Jack E. Nall** and **Lawrence D. Miskell,** traffic managers, named regional traffic managers with headquarters remaining at Louisville.

Deward M. Aines, assistant supervisor of communications, Birmingham, Ala., appointed general communications inspector, Louisville, Ky.

MISSOURI PACIFIC-TEXAS & PACIFIC.—A. J. Batliner, general agent, Lake Charles, La., retired May 31 after 49 years of service.

NORTHERN PACIFIC.—E. N. Peterson, assistant to comptroller, named manager-miscellaneous accounts, to succeed **J. J. Castagne,** who retired May 31. **D. E. Koski** replaces Mr. Peterson.

K. L. Cook, western agricultural agent, Seattle, named director of the agricultural department, St. Paul, to succeed **Larry S. MacDonald,** who retired June 1. Mr. Cook will be succeeded by **D. R. Hamm,** agricultural agent, Spokane.

A. T. Brumfield, general signal supervisor, St. Paul, Minn., appointed assistant signal engineer, Tacoma, Wash., succeeding **F. V. Sloop,** retired. **R. W. Larsen,** signal supervisor, Fargo, N.D., appointed general signal supervisor, St. Paul succeeding Mr. Brumfield. **S. D. Glumich,** signal inventory engineer, St. Paul named signal supervisor, Fargo.

ONTARIO NORTHLAND.—L. R. Pelletier, formerly sales representative, North Bay, Ont., appointed branch sales manager, Toronto sales office, succeeding **K. Biggs,** promoted (RA, May 16, p.40).

PENNSYLVANIA.—Bruce J. Relyea appointed manager, business planning and analysis, succeeding **C. G. Christovich,** who recently joined **Berman Leasing Co.,** Pennsburg, Pa., as controller (RA, May 2, p. 40).

RAILWAY PROGRESS INSTITUTE.—A. Walter Boorom, president, **Railroad Materials Corp.,** New York, appointed to the RPI Board of Governors.

READING.—Matthew L. Werner, Jr., appointed assistant manager labor relations.

John H. Marino named industrial engineer.

The following changes and appointments have been made in the Engineering Department: **D. F. Cowell,** assistant to chief engineer; **L. D. Freeman,** engineer maintenance of way; **H. C. Archdeacon,** engineer of track; **B. F. Overbey,** division engineer, Philadelphia division; **E. C. Lawson,** engineer, planning and construction; and **W. P. Houwen,** construction engineer. The following positions have been abolished: production engineer, engineer of track and work equipment, and project engineer-Fox Chase.

SEABOARD AIR LINE.—Jasper S. Riggan, Jr., general agent, Memphis, Tenn., promoted to district manager freight sales there. The appointment is to bring about consolidation of the Nashville freight sales office into the Memphis office. **Edward H. Lewis,** general agent, and **David W. Rogers,** customer service representative, both of the Nashville office, transfer to Memphis under the new setup.

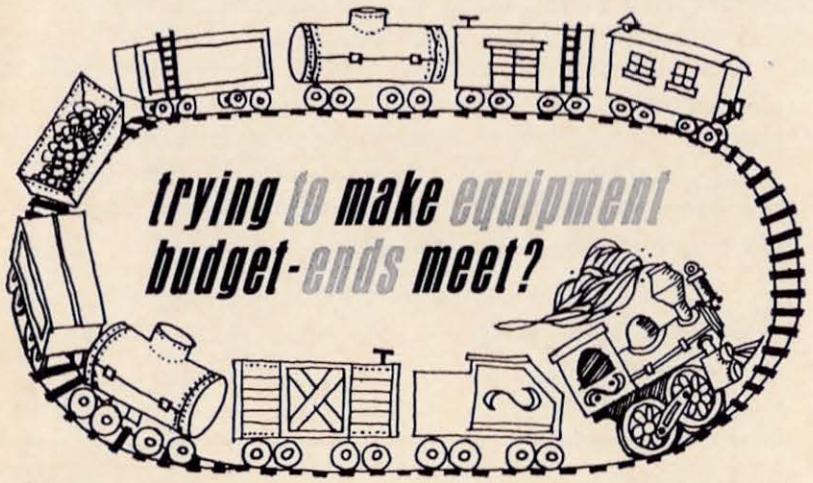
Granvel E. Huband, division freight agent, Raleigh, N.C., promoted to assistant general freight agent there. He succeeds **Clarence R. Dolby, Jr.,** recently named general industrial agent, Richmond, Va. (RA, May 30, p.99).

William R. Goodson, trainmaster, Andrews, S.C., named trainmaster Columbia, S.C., a newly created position. **Elton L. Cook,** assistant terminal trainmaster, Richmond, appointed terminal trainmaster, Hamlet, N.C., to succeed **C. Claude Taylor, Jr.,** who becomes trainmaster at Richmond. **Harry W. Cooke,** terminal trainmaster, Atlanta, Ga., succeeds Mr. Goodson at Andrews.

L. E. Morgan, assistant freight traffic manager, Tampa, Fla., retires June 30, after 38 years of service. **Willoughby B. Culpeper,** assistant freight traffic manager, and **I. Guy Brooks,** general freight agent, have been named assistant general managers—rates. **Elbert Jackson, Jr.,** assistant general freight agent—divisions, Richmond, Va., named general freight agent—rates, there. Mr. Jackson has been succeeded by **William H. Hopkins, III,** former chief clerk, office of general manager—rates.

SOO LINE.—Created the following positions in the Traffic Department: director of industrial development, which will be held by **Stanley M. Mrosak,** formerly assistant industrial commissioner; assistant general freight agent, marketing, which will be filled by **Robert R. Kottke.** Mr. Kottke was formerly assistant to general freight traffic manager, marketing.

SOUTHERN PACIFIC.—E. G. Pattillo appointed assistant general auditor, Houston, Tex., succeeding **J. V. Watson,** who retired May 31,



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after 49 years with the Southern Pacific.

TOLEDO, PEORIA & WESTERN.—Charles E. Zeman, sales manager, Peoria, Ill., appointed regional manager sales there.

U.S. CHAMBER OF COMMERCE. — Joseph R. Ewing has been appointed to the Transportation & Communications staff, National Economic Development Group, succeeding **Roland A. Ouellette,** who has joined the Transportation Association of America, Washington (RA, March 21, p. 46). Mr. Ewing had been press information officer, Interstate Commerce Commission, for the past four years.

WESTERN MARYLAND.—C. A. Stokes, electrical engineer, Baltimore, appointed assistant to chief engineer—staff. **E. D. Billmeyer,** bridge and structures engineer, named assistant to chief engineer—structures. **W. Binzen,** project engineer, appointed assistant to chief engineer—projects. **A. D. Keidel** named terminal engineer, **N. M. Tullis,** general supervisor, and **R. H. Smith,** administrative assistant, office of chief engineer.

J. S. Michno, development engineer, appointed manager—real estate, Baltimore, Md.

Industrial Traffic

Karl S. Wright, general traffic manager, **Carborundum Co.,** Niagara Falls, N.Y., will retire Sept. 1, after more than 40 years of service. **H. A. Harrington** is scheduled to succeed Mr. Wright.

Guy R. Heckman, Jr., has been named assistant to the general traffic manager, **Hershey Chocolate Corp.** Mr. Heckman will assist in coordinating the activities of three new sections added to the department—the Traffic Service Section, Traffic Marketing and Research Section and the Claims Section.

Donald Aldrich has been appointed traffic manager, Chicago Office, **L. B. Foster Co.** Mr. Aldrich was traffic manager, **Chicago Terminal Clearance** before joining L. B. Foster Co.

OBITUARY

Homes Bannard, 60, who retired in January as assistant vice president—freight sales and service, **New York Central,** died June 17 at his home in Scarsdale, N.Y. He had been serving as a consultant on high-speed ground transportation for the Department of Commerce since his retirement. Mr. Bannard was with the **Pennsylvania** from 1929 to 1958.

Deodat Clejan, 40, president of **Cushion Coupler Corp.** and **Pulse-Jet Corp.,** Chicago, and a consultant to **General American Transportation Corp.,** was killed in a plane crash June 16. Mr. Clejan was a member of the Illinois High Speed Rail Transit Commission.

J. Fred Davis, 66, retired traffic manager, **Babcock & Wilcox Co.,** Tubular Products Division, Beaver Falls, Pa., died May 26 in Pittsburgh.

Alan Howard, general manager, Gas Turbine Department, **General Electric Co.,** Schenectady, N.Y., died May 19. After World War II, Mr. Howard was responsible for development of all GE's heavy-duty, industrial gas turbines, including the first locomotive gas turbine in the United States.

Daniel E. Perry, 56, general freight agent, **Chicago Great Western,** Chicago, died June 6.

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CONTAINERS OF CITRUS JUICE are loaded aboard flat cars in Florida to begin the rail-ship journey to Europe. Left to right are: L. E. Morgan, SAL assistant freight traffic manager, Tampa; J. T. Kelley, Jr., SAL general TOFC agent, Lake Wales, Fla.; and R. G. Powers, Tropicana traffic manager, the shipper.

Seaboard launches overseas citrus container service

Seaboard Air Line last week joined the growing list of railroads regularly engaging in overseas container service.

SAL and Tropicana Products, Inc., a Florida-based citrus producer, teamed up to ship eight fiberglass-insulated containers of chilled orange and grapefruit juice from Bradenton, Fla. to Auburvilliers, near Paris, France.

The containers, mounted on trailer wheels, each carried 3,114 gallons of fresh juice in bottles. The container units moved out of Bradenton on flat cars to become part of the consist of SAL's regularly scheduled TT-24 all-piggyback train that leaves Wildwood, Fla., daily at 7 A.M., and arrives in Kearny, N.J. at 11 P.M. the following day.

In New York, the containers were loaded aboard a U.S. Lines container ship for the voyage to LeHavre, France. The shipment is expected to be at its destination within two weeks of the date it left the citrus plant in Florida.

Seaboard's all-piggyback "Razorback" trains travel over the SAL, Richmond, Fredericksburg & Potomac and Pennsylvania to the Kearny yard. The fast service offers 48-hour delivery to New York City. A southbound piggyback special, TT-23, leaves Kearny daily.

SAL is arranging interchange agreements with several ship lines to handle overseas container traffic. The road is now planning to move peach crops from South Carolina growers to European points via containers.

● **New markets for perishables.** A Seaboard spokesman said the new container service inaugurated with Tropicana will be available to other Florida citrus growers. By using the specially-built fiberglass-insulated containers the temperature of the fresh juice can be kept at the desired level for the entire length of the trip to Europe. No additional refrigeration is required.

Seaboard expects to handle other perishable crops grown in the southeast for container shipment to France and other European areas, including Scandinavia.

State benefits, too

It was pointed out that the shipments of refrigerated-containerized citrus, especially, would be an additional boost to Florida's economy, and that the service could become a factor in helping to move the increasingly large crop of citrus which Florida grows annually. Expansion of the U.S. citrus markets in Europe would strengthen the stability of the state's citrus marketing program in the future.

Last year, the Florida citrus industry participated in a test shipment with the U.S. Lines, sending container units piggyback to New York for movement to Cologne, Germany.

Florida citrus processors have long desired to enter the European market, which is now dominated by Spain and Israel. The use of the new containers is expected to give American growers an economical way to deliver chilled fresh juice to other countries.

Seaboard, a member of Trailer Train, is using TTX flat cars for its service. Twenty and forty-foot containers are now being carried. ■

Circle 55 on reader service card

B&O handles wheel slip

(Continued from page 25)

● **Causes of slip.** B&O technical experts made an extensive study of wheel slipping. As they see it, the loss of adhesion between the wheels of a locomotive and the rails over which it is moving is caused by a variety of conditions including inadequate wheel-to-rail contact, poor track conditions, oily rail, weight transfer between locomotive axles, variation in wheel sizes and failure to match gears properly.

● **The new system.** The research and development of the prototype wheel slip control and production of the final system were handled by C. M. Machin, Jr., chief electrical engineer, C&O-B&O, under the direction of G. M. Beischer, chief mechanical officer, and in cooperation with Summit Electronics.

Through the use of semiconductors, transductors and other solid-state devices, a decrease in sensing time is achieved over that necessary with mechanical relays. There is also a reduction in maintenance. B&O has found that the system can be applied to a locomotive in about two man-hours at a cost of approximately $600.

By using high-speed oscillographs, it was possible to compare the new rate-of-change system with two versions which have been builder's standards on locomotives. Tests were conducted so that each system could be monitored under practically identical rail and railing-load conditions.

● **Numerous advantages.** Over the past 18 months, the B&O has carefully appraised its new design. It reports a series of advantages for the system:

—Little or no maintenance as compared with the relay adjustment and contact resistance tests required for conventional systems.

—Positive improvement in adhesion and a major decrease in wheel slip duration improve not only the hauling capacity of the locomotive on grades but increase the average speed.

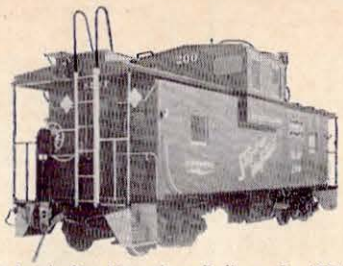
—Decrease in the frequency of unloading and loading the locomotive's engine and generator with subsequent increase in component life.

—Reduction in flashovers because of the faster unloading of the generator;

—Decrease in motor damage, both electrical and mechanical, because of speedier slip suppression.

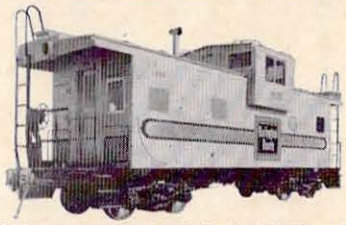
—Permits use of wheels of varying diameters without loss of slip protection and reduces wheel and rail wear.

—Equally effective in dynamic braking and traction. ■



St. Louis-San Francisco Railway Co. (FRISCO)

St. Louis Southwestern Railway Co. (COTTON BELT)



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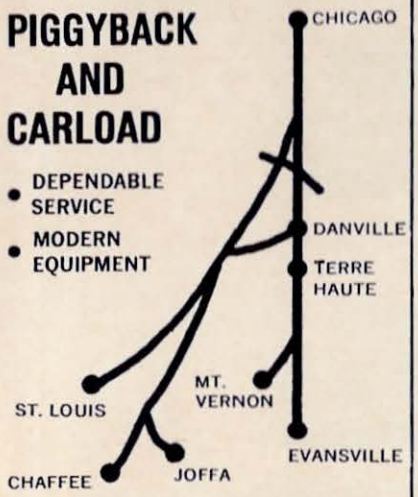

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AS THE EDITOR SEES IT...

STAN FREBERG vs THE SP—Everybody who reads the newspapers has heard, by now, of the splendid show put on by Stan Freberg, the humorist, when he testified in opposition to a train-off petition involving the "Lark," Southern Pacific's San Francisco-Los Angeles overnighter. Mr. Freberg accused the SP of lowering a "tapioca curtain" between the "Lark" and those who struggled to board it. And the only thing tougher than a $3.25 SP steak, he opined, was the heart of an SP ticket agent. Advertising? Mr. Freberg said he found Rexall 1-cent-sale ads more gripping than those promoting the "Lark."

All in all, Mr. Freberg managed to convey the impression that he himself just about lived aboard the "Lark"—in fact, couldn't live without it. This was fine stuff for the reporters covering the California P.U.C.'s hearing and they made the most of it. But an important part of Mr. Freberg's testimony did not make the papers.

FUNNY BUSINESS, INDEED—The following is a verbatim exchange that took place between SP's lawyer, Harney Wilson, and Funnyman Freberg:

"Mr. Wilson: Mr. Freberg, how often a rider are you of the 'Lark,' sir?

"The Witness: Well, I am a rider of the 'Lark' whenever my business takes me to San Francisco. I rode the 'Lark' a great deal more in the years 1956 to '61 . . . .

"Frankly, due to the slow deterioration of service on there [sic]—it was at that time the most enjoyable ride in the world—and also I think that psychologically deterred me, being a train buff even, from riding the 'Lark.'

"But I'll tell you this. I am going to New York in 10 days and I'm going to take the Union Pacific all the way to Chicago, change over to Pennsylvania Railroad to New York and come back the same way. That's a six-day trip.

"Q. Now, Mr. Freberg, will you answer the question? I asked how often do you ride the 'Lark,' sir?

"A. I was only trying to point out it's the only way I travel, by train . . . Let me rephrase my answer. I ride the 'Lark' whenever I have to go to San Francisco, whenever that may be. It might be six times a year. Some years it is only twice a year.

"Q. That is all I am trying to find out. How often has it been in the last year?

"A. The last year I rode the 'Lark' about twice to San Francisco.

"Q. The year before that?

"A. I rode it not at all. I had no business here.

"Q. And the year before that?

"A. I didn't ride it at all, but I didn't go to San Francisco on a plane, either. The year before that I probably rode it ten times."

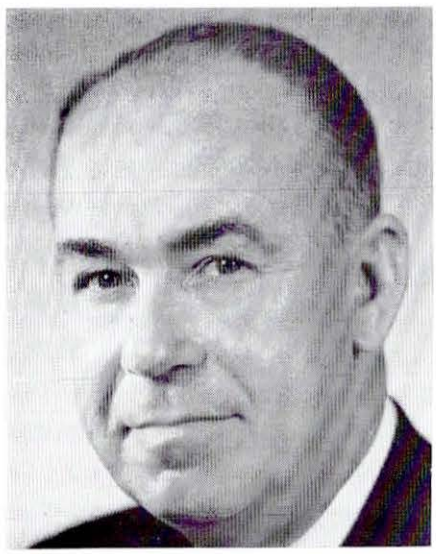
With such veterate fans as Mr. Freberg, no wonder the "Lark" is in trouble.

'JUST A LION'—Stories of heroism on the rails abound. But what about the non-hero? It takes a certain intelligence to know when you're licked, and guts to admit it; and reasonable men can only applaud the likes of the stationmaster at Tsavo, Uganda, who some years ago sent the following telegram to the railway traffic manager at Nairobi: "Just a lion twice or thrice to break office and fencing doors, leaving office door on bell ringing half-hour. Myself and family, consisting two wives and three children, narrowly escaping danger of life. Now seeking safety in office. Cannot dare give 'line clear' signal to oncoming train. Please arrange matter own personal satisfaction and dispose of two lions who great bane my existence."

It is a pleasure to report that the matter was arranged to the satisfaction of all concerned, except the lions.

AAR MECHANICAL DIVISION

J. H. HERON, chairman of the Division and assistant vice president-equipment of the New York Central System.



R. R. MANION, vice president, AAR Operations-Maintenance Department.

H. R. LONGHURST, assistant director, ICC Bureau of Railroad Safety-Service.

The 38th annual meeting of the AAR Mechanical Division will be held in the Grand Ballroom of the Sherman House, Chicago, June 28, 29 and 30. Reports will be summarized to permit questions and discussion. A Committee on Subjects will receive and consider for discussion topics not included in committee reports.

TUESDAY, JUNE 28
10 a.m. (DST)

Address—J. P. Hiltz, Jr., president and general manager, Delaware & Hudson.

Address — R. R. Manion, vice president, Operations and Maintenance Department, AAR.

Address—Chairman, J. H. Heron, assistant vice president-equipment, New York Central.

Reports — General Committee; Nominating Committee; Locomotives and Locomotive Fuels and Lubricants; Wheels and Axles; Specifications for Materials; Electrical Equipment-Rolling Stock; Safety Appliances.

WEDNESDAY, JUNE 29
9:30 a.m.

Address—H. R. Longhurst, assistant director, Bureau of Railroad Safety and Service, ICC.

Reports—Arbitration; Prices for Labor and Materials; Journal Roller Bearings; Loading Rules; Brakes and Brake Equipment; Couplers and Draft Gears.

THURSDAY, JUNE 30
9:30 a.m.

Address—G. R. Schaefer, director of WABCO Mass Transit Center at Pittsburgh.

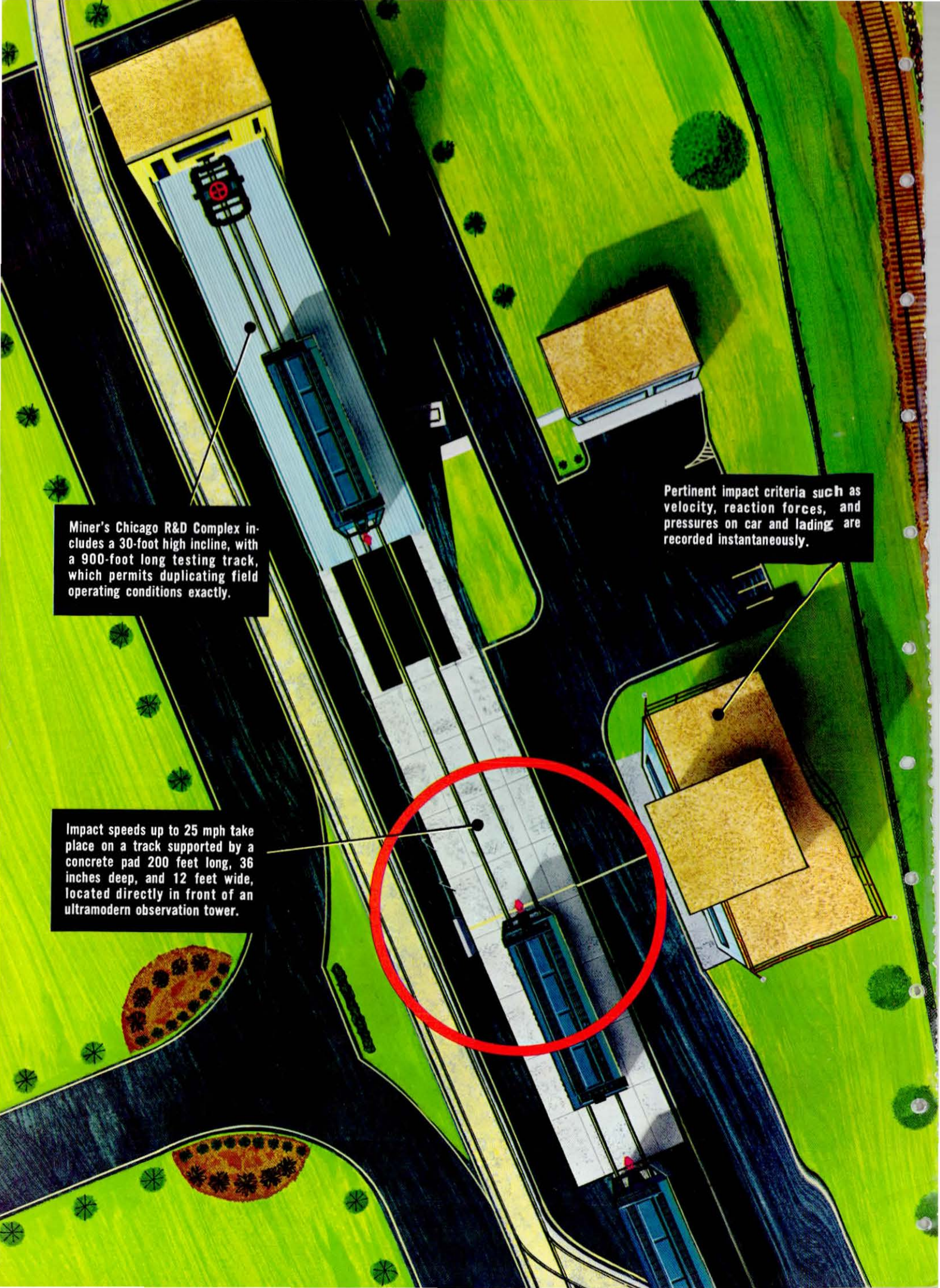
Reports — Freight and Passenger Car Construction; Tank Cars; Lubrication of Cars and Locomotives.

Election of General Committee members.

T. T. BLICKLE, vice chairman of the Division and general manager (mechanical) of the Atchison, Topeka & Santa Fe.

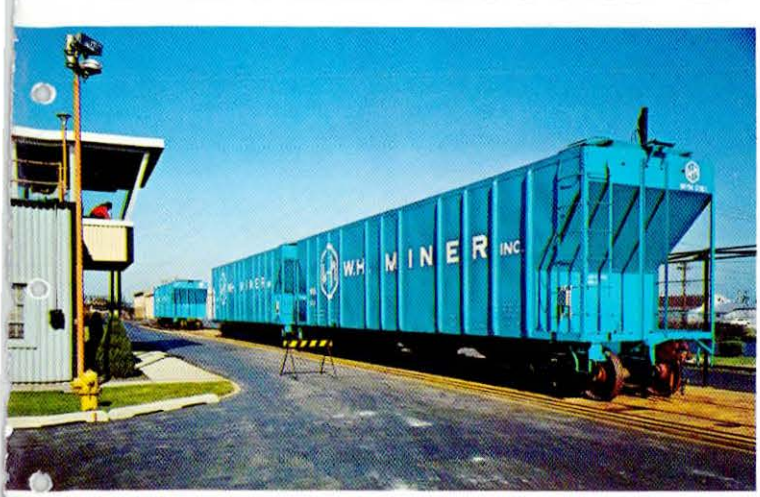
J. P. HILTZ, JR., president and general manager of the Delaware & Hudson.

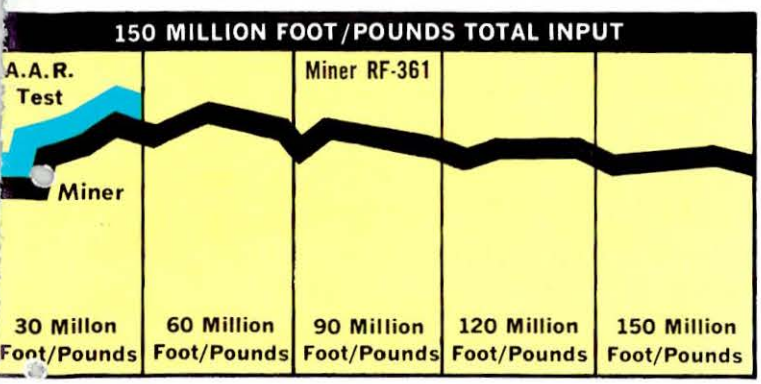
G. R. SCHAEFER, director of WABCO's Mass Transit Center.


Miner's Chicago R&D Complex includes a 30-foot high incline, with a 900-foot long testing track, which permits duplicating field operating conditions exactly.
Pertinent impact criteria such as velocity, reaction forces, and pressures on car and lading are recorded instantaneously.
Impact speeds up to 25 mph take place on a track supported by a concrete pad 200 feet long, 36 inches deep, and 12 feet wide, located directly in front of an ultramodern observation tower.

IMPACT IMPACT IMPACT IMPACT IMPACT

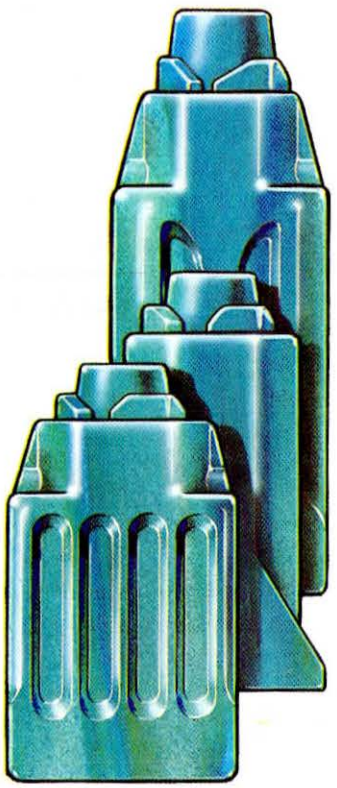
One-Fifth Second of IMPACT Progress



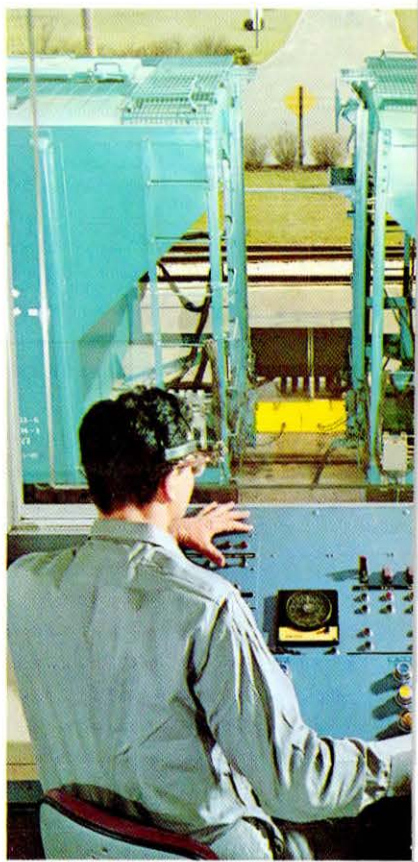


These Miner test cars duplicate rolling stock performance and contribute to draft gear development to meet the demands of today's accelerated shipping requirements.

The Miner RF-361 is unconditionally approved for A. A. R. Specifications M-901E-59, and provides increased lading protection.



Other types of shock absorbers are being field-tested, and spectacular results in super-protection are anticipated.



Shock protection devices of all types are analyzed in action at varying speeds for performance and durability.

Each time Miner's new test cars impact, additional shock absorption data of value to railroads everywhere is instantaneously recorded. This wealth of knowledge is used to design draft gears which provide increased protection to shippers' lading and car structures.

The search for improved protection against shock damage to goods and cars is a daily activity at Miner. Miner's philosophy is to use the best in materials to obtain the best in performance and to test all new or improved designs under field operating conditions. The result is greater protection for equipment to deliver goods in perfect condition.

W. H. MINER, INC., CHICAGO

International Operations: Washington, D. C.

NEW **PRODUCTS** REPORT

Identification Panels **(RA-1)**

Company name, trademark, and art work are permanently embedded in car identification panels made by Modulite reinforced polyester process. The panels, "only one-fifth the weight of steel panels," are said to be indestructible and do not have to be removed to repaint cars. They are mounted with bolts, rivets or contact cement. In a 10-year-life test, under outdoor weather conditions, the same resin showed no deterioration. *G-L Industries.*

Load Detector **(RA-2)**

A new detector using photo-electronic equipment can detect presence, count and measure height, width and contour of railroad cars at any speed up to 100 miles per hour. Typically, 5 beams will measure complete contour. One beam or more may be used to measure height alone.

The operating distance is 150 feet plus. The light source is an infrared sealed beam. Power requirements are 110 volts, ac, or 12 or 24 volts dc. *Hanlon & Wilson Company.*

Flat Reflector **(RA-3)**

A new elliptical, tower-mounted 13 million cycles per second-reflector is now available. The new "TM" series reflectors employ an entirely new panel and mounting concept.

The fully enclosed reflector panel is fabricated of aluminum, without perforations. The reflecting face is protected by a back covering of solid aluminum.

The TM Series reflectors have a wide range of adjustment. *Microflect Co., Inc.*

Insulated Joint **(RA-4)**

The new 3M brand insulated rail joints are molded from "Scotchply" brand fiberglass reinforced plastic. They have fewer parts than conventional rail joints and have been subjected to the following conditions in actual field service: (1) High stresses—welded rail in an average temperature range from −50 deg. to +110 deg. F; (2) High humidity—mainline track where average precipitation is 28 inches per 6 months, and average humidity is 76%. *3M Co.*

Ramp and Dock Board **(RA-5)**

An aluminum ramp and dock board, joined by ¾-in. fixed steel locking pins, provides shallow incline needed for safe cargo loading at track and rail docks where extreme height differentials are encountered. Fixed legs welded at elevated end of ramp allow its use independent of dock board which can also be used alone. Adjustable stops on board provide a loading bridge that adjusts and locks to different span widths. Axle loads range up to 12,500 lb. *Copperloy Corp.*

Butyrate Coatings **(RA-6)**

The cellulose acetate butyrate-based lacquer used to coat cars of Japan's Tokaido Line resists the air abrasion, similar to sandblasting, caused by passing of the express trains going in opposite directions when the combined speed differential is up to 300 mph. Two coats are used, the first about 1 mil thick; the second, about ¾ mil. The lacquer is used on the trains both in cream- and blue-pigmented formulas. *Eastman Chemical Products.*

RAILWAY AGE
WEEKLY

30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. George Johnson)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 96 MARKED RA-1 RA-2 RA-3 RA-4 RA-5 RA-6

NAME ..... TITLE.....

COMPANY .....

ADDRESS .....

CITY ..... STATE ..... ZIP .....

6/27/66

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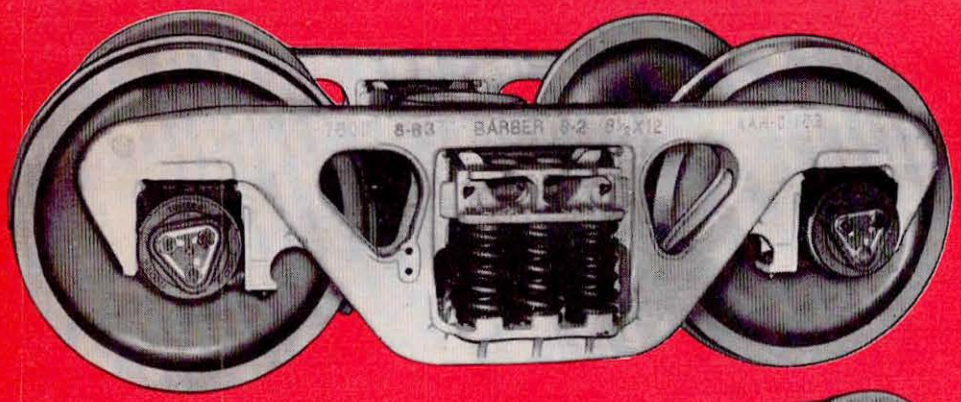
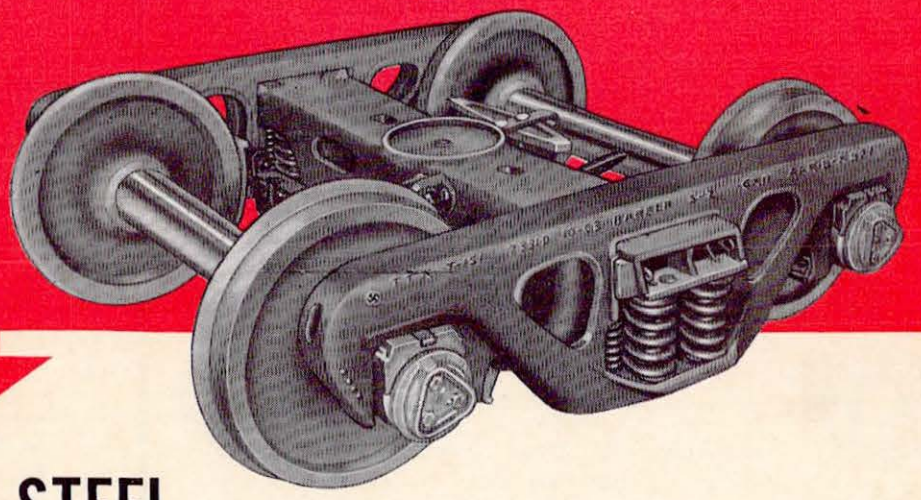
ENGINEERING



Light Weight,
Hi-Tensile
Heavy-Duty
(100 ton) Truck



Special Low
Conveyance
28" Wheel
Barber Truck

by SCULLIN STEEL

Scullin skill in engineering and design, gained through over 65 years of experience in the production of highest quality freight car castings, is evidenced again in these modern trucks equipped with Scullin side frames and bolsters.

Designed and built to railroad or car builder requirements, these trucks are performing with complete satisfaction in the most exacting types of service.

Bring your special (or conventional) problems to Scullin—our skills in design, engineering, research and development will serve you well.

SCULLIN STEEL CO.

A Division of Universal Marion Corporation

Main Office & Works: 6700 Manchester Avenue St. Louis, Mo., 63139

SALES OFFICES: St. Louis, Missouri 63139 — 6700 Manchester Ave
Chicago, Illinois 60604 — 332 S. Michigan Ave.
Philadelphia, Pa. 19103 — 1281 Suburban Station Bldg.

REPRESENTATIVES: Baltimore, Maryland 21202 — N. S. Kenney Co. — 1815 Munsey Bldg.
Richmond, Virginia 23230 — Samuel P. Goodloe — 3600 W. Broad St.
San Francisco, Calif. 94124 — J. C. Fennelly Co. — 1485 Bayshore Blvd.

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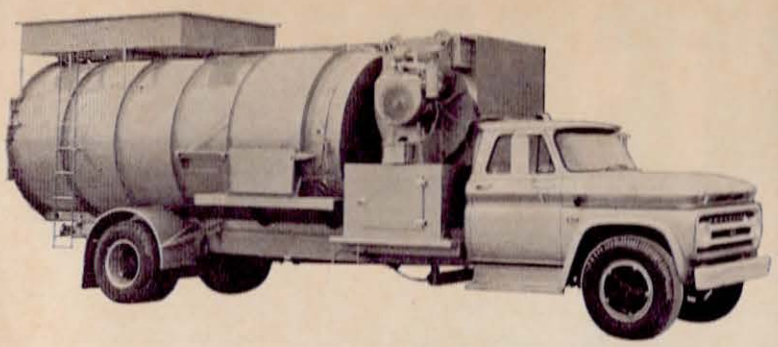

A PAK-MOR CAR CLEANING UNIT

Pak-Mor's
Car Cleaning Units Are
PLANNED PROGRESS!

PAK-MOR offers You
Wide Experience in Design and
"On The Job" Operation
Tailored to Your Operations —
Profitably

Proven in Service from
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Versatility Plus!

The Key to PAK-MOR Efficient
Operation lies in Manufacturing
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PAK-MOR Offers More Opportunities
Than Ever, for:
Increasing Your Profits
Cutting Costs, and
Gaining Other Advantages
Never Possible Before

The PAK-MOR Way —
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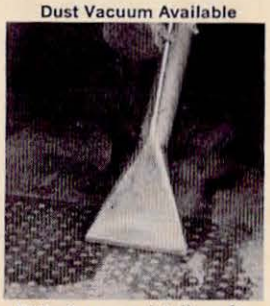
Dust Vacuum Available



Write for more details or for
a factory engineer to call.

A few of the railroads using the PAK-MOR car cleaning units

SANITATION FOR THE NATION
PAK-MOR
MANUFACTURING COMPANY

"PACIFIC FRUIT EXPRESS"

1123 S. E. MILITARY DRIVE P. O. BOX 14147
SAN ANTONIO, TEXAS 78214 AREA CODE 512 WAlnut 3-4317

Circle 59 on reader service card

New railroad buys old Reading line

The steam and diesel powered New Hope and Ivyland Railroad—a 16.7-mile road that will operate over part of a 75-year-old branch line of the Reading—came into being last week.

Reading President Charles E. Bertrand and Kenneth Souser, chairman of the NH&I, signed the transfer papers at ceremonies in Philadelphia's Reading Terminal. Souser handed Bertrand a check for $150,000, completing payment of $200,000 agreed upon after the ICC approved the sale by the Reading last year.

The new railroad began freight service almost immediately. Principal customer is the Union Camp Co. paper bag plant at New Hope.

● **Tourist attraction planned.** The NH&I plans to begin operation of steam-powered passenger service on July 17. Trains will run the seven miles between New Hope, a Delaware River resort town, and Buckingham Valley on a regular excursion basis. Daily service is planned through the summer and fall.

Two of the line's three steam locomotives and seven passenger cars will be brought from St. Clair, Pa., near Pottsville, Pa., in a 110-mile trip to New Hope under their own steam on July 2.

"Operating from one of the major resort towns of the state, New Hope, and through some of the most attractive countryside in the East, we hope to make this new railroad one of the principal tourist attractions of the area," Souser said. "Connecting with the Reading at Ivyland, it will also continue to link central Bucks County by rail with the rest of the nation. We will strive to preserve the inherent beauty of the line and make it a credit to the communities with which it will be associated."

If the enterprise proves profitable, he added, the railroad plans to extend steam passenger service over the entire 16.7-mile line "as soon as practicable."

Souser said that track repair crews would begin work within a few days on improving the road bed of the line between New Hope and Buckingham Valley over which passenger trains will operate. He said the work would cost about $35,000. ■

*Here's the only all-rubber gear unconditionally certified * by AAR*

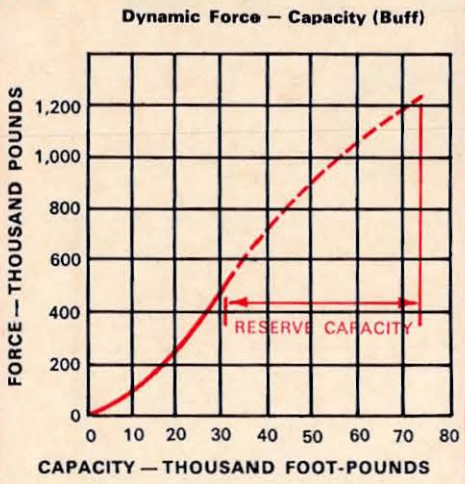
*NATIONAL MF-400A all-rubber-cushioned draft gear has received Unconditional Certificate No. 39.

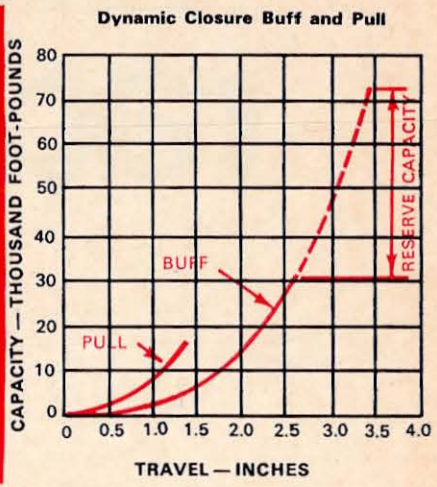
Dynamic Force — Capacity (Buff)

Force (lbs)	Capacity (ft-lbs)	Travel (inches)
—	5,836	1.31
504,400	30,640	2.54 (AAR Rating Travel)
804,200	42,980	2.82 (AAR Max. Travel)
1,237,000	72,500	3.375 (Full Cushioning Capacity)

Dynamic Closure Buff and Pull

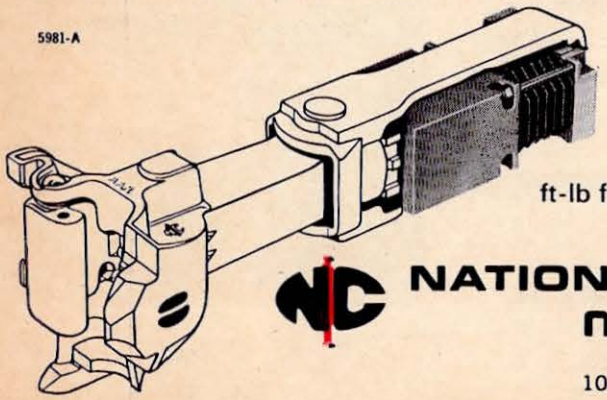
BUFF		
Force (lbs)	Capacity (ft-lbs)	Travel (inches)
—	5,836	1.31
504,400	30,640	2.54 (AAR Rating Travel)
804,200	42,980	2.82 (AAR Max. Travel)
1,237,000	72,500	3.375 (Full Cushioning Capacity)
PULL		
—	15,000	1.31
500,000	17,650	1.37





National MF-400A is the one and only all-rubber gear with an official rated capacity of 30,640 ft-lbs at 504,000 lbs force and 2.54 inches travel . . . the only all-rubber gear ever to have exceeded the requirements of AAR Specification M-901D-59. ■ National MF-400A, most widely used of all National rubber draft gears, with over 44,000 units in service, gives constant protection because it never goes solid. Because MF-400A cushions all the time and all the way it has a full cushioning capacity of 72,500 ft-lbs at 1,237,000 lbs force and 3.375 inches travel. ■ With today's higher speeds and greater demands by shippers, you can't afford not to equip with rubber draft gears. When it comes to rubber draft gears, most railroads come to National — producer of MF-400A, the one and only unconditionally certified all-rubber-cushioned draft gear.

5981-A



National NC-440 Rubber Cushioned Gear (shown assembled with National Type F Coupler) is the only AAR Specification M-901-E all-rubber gear with 85,000 ft-lb full cushioning capacity at 1,200,000 lbs force.

NATIONAL CASTINGS DIVISION
Midland-Ross Corporation

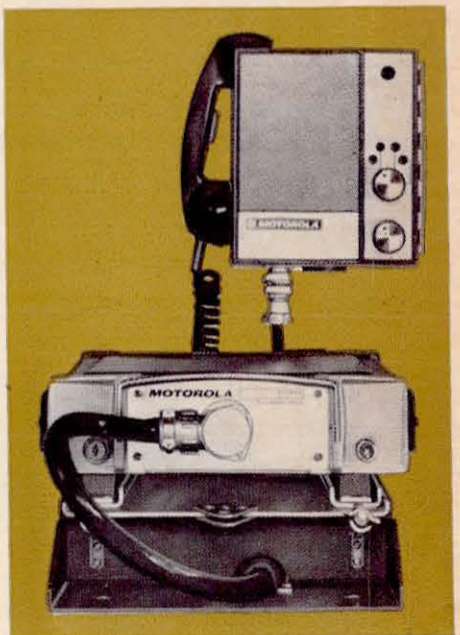
10600 QUINCY AVENUE • CLEVELAND, OHIO 44106

Circle 60 on reader service card

announcing the all solid state "MOTRAN" radio

THE MOST RELIABLE RAILROAD RADIO EVER PRODUCED

The new "Motran" Railroad Radio brings you a new high in reliability and economy of communications. Tubes and relays have been replaced by trouble-free solid state components. The new solid state transmitter provides a full 35 watts of RF output power. Power starts high—stays constant through the years. Advanced receiver design gives you the highest intermodulation protection — 80 db — so your messages come through crystal clear even in areas of extremely heavy radio use. Four channel capability and 64/12 VDC operation make this the most versatile railroad radio available. It fits almost every type of rolling stock, switches easily from one application to another. *Fully interchangeable* with your present "Motrac" or Stan-Pac radio, the "Motran" radio comes in either AAR or Universal models. And there's a 117 VAC model "Motran" radio for wayside stations. Get full details from your Motorola Railroad Representative today. Motorola Communications & Electronics, Inc., 4935 W. LeMoyne Ave., Chicago, Illinois 60651. A Subsidiary of Motorola Inc.



MOTOROLA
2-WAY
RAILROAD RADIO

Circle 65 on reader service card

MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended June 18 totaled 625,333 cars, the Association of American Railroads announced on June 23. This was an increase of 4,178 cars, or 0.7%, compared with the previous week; an increase of 21,188 cars, or 3.5%, compared with the corresponding week last year; and an increase of 42,145 cars, or 7.2%, compared with the equivalent 1964 week. Ton-miles generated by carloadings in the week ended June 18 are estimated at 15.4 billion, an increase of 8.6% above the corresponding week of 1965, and 16.4% above the 1964 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, June 18

District	1966	1965	1964
Eastern, including Allegheny and Pocahontas ..	248,453	247,134	236,283
Southern	117,177	108,979	108,361
Total Eastern and Southern Districts	365,630	356,113	344,644
Northwestern .	93,609	87,075	82,010
Central Western	123,775	119,236	116,388
Southwestern ..	42,319	41,721	40,146
Total Western Districts	259,703	248,032	238,544
Total All Roads	625,333	604,145	583,188
Commodities:			
Grain and Grain products	61,565	55,736	54,012
Livestock	1,208	1,291	1,708
Coal	121,912	115,624	112,689
Coke	8,644	8,746	8,287
Forest Products .	41,054	36,233	38,155
Ore	61,285	56,654	54,688
Merchandise l.c.l.	6,248	9,755	12,418
Miscellaneous .	323,417	320,106	301,231
June 18	625,333	604,145	583,188
June 11	621,155	604,343	588,880
June 4	547,692	530,484	567,170
May 28	611,737	600,776	561,860
May 21	609,325	598,678	576,342
Cumulative total, 24 weeks	13,445,974	13,254,422	13,928,855
Estimated revenue ton-miles (billions) 24 weeks ...	338.1	313.0	299.7

PIGGYBACK CAR LOADINGS.—U.S. piggyback loadings for the week ended June 11 totaled 23,003 cars, carrying 37,670 trailers, compared with 19,915 cars, carrying 32,283 trailers, in the corresponding 1965 period. Loadings for 1966 up to June 11 totaled 492,375 cars, carrying 813,505 trailers, compared with 442,266 cars, carrying 711,924 trailers, in the corresponding period of 1965.

IN CANADA—Carloadings for the seven-day period ended June 7 totaled 84,616 cars, compared with 111,797 for the previous ten-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
June 7, 1966	84,616	24,416
June 7, 1965	79,236	23,258
Cumulative Totals		
June 7, 1966	1,732,204	581,190
June 7, 1965	1,584,872	549,396

FREIGHT TRAIN CARS

► *Great Northern.*—Ordered 30 heavy-duty, 53½-ft, 90-ton bulkhead flat cars, equipped with cast steel underframe and end cushioning, from General Steel Industries at a cost of $675,000. Cars will be delivered in late 1966 and early '67, and will be used for hauling aluminum ingots from a new Intalco Aluminum Co. plant near Bellingham, Wash. GN also ordered eight 60-ft, 9-in. auto-parts box cars to be built by Pullman-Standard and fitted with lading-protection devices by Evans Products. Total cost of the cars is estimated at $160,000; delivery is scheduled for November.

► *Louisville & Nashville.*—Directors authorized acquisition of 1,215 new freight cars and 191 bi- and tri-level auto racks at a total cost of approximately $18.4 million. L&N will buy 400 50-ft, 70-ton box cars equipped with cushion underframe; 300 100-ton covered hopper cars; 15 100-ton Airslide covered hopper cars; and 500 80- and 100-ton open-top hopper cars. The 191 auto racks will be installed on Trailer Train flat cars.

PIGGYBACK

► *Trailer Train.*—Ordered 180 low level flat cars and 175 standard level cars from Pullman-Standard. From Jan. 1 through June 16 Trailer Train's car purchases totaled 4,344 units. The TTX fleet in service and on order as of June 16 totaled 34,541 cars.

LOCOMOTIVES

► *Seaboard Air Line.*—Ordered 30 3,000-hp diesel-electric locomotives at a cost of $6.2 million for delivery next January. Fifteen of the units will be built by GE, and 15 by EMD.

► *Spokane, Portland & Seattle.*—Ordered eight 2,500-hp diesel-electric locomotives from Alco at a cost of $1.4 million. The four-axle Century 425 units will be equipped with 2,900-gallon fuel tanks, dynamic brakes and two-way radio, and will be fitted for multiple-unit operation.

NEW FACILITIES

► *Grand Trunk Western.*—Three major yard projects are under way. A 25-track, 500-car-capacity support yard is being built over a five-year (1965-69) period at Kalamazoo, Mich., to serve a new Fisher Body Division plant. Total cost is estimated at more than $800,000; the yard will be owned and operated jointly by GTW and New York Central. Yard office construction, grading and drainage will be handled by an outside contractor; the balance of the work will be performed by railroad forces. GTW is also in first-phase construction of a support yard at Lansing, Mich., to serve various industries including an Oldsmobile Division plant. Cost of this project will be $616,000; work is scheduled for completion in autumn of 1966. In addition, GTW will construct 10 tracks and a yard office and will install lighting and communications at Belt Yard, Pontiac, Mich., to support operations of Pontiac and Fisher Body Division plants. Cost of this project is estimated at $600,000; work is scheduled for completion this summer.

YOU OUGHT TO KNOW

New Northerns case deadline: The ICC has set back for another month, to July 27, the deadline for filing requests for reconsideration of its adverse decision on the Great Northern-Northern Pacific-Burlington merger proposal. The additional time was sought by those roads.

Advertising award: Reynolds Metals Co. last week received a Bestseller Honor Award from the Association of Industrial Advertisers. Reynolds won the award for a 1965 advertising campaign on behalf of its aluminum products for the railroad industry. Citations were presented to R. L. Krauss, Jr., markets advertising manager for Reynolds, and to R. B. Shonfeld, account executive of Clinton E. Frank, Inc., the company's advertising agency.

Soo Line protests: Soo Line has surveyed the merger scene in the West—and found the view unattractive. Thus, the road last week filed a petition with the ICC, asking the Commission (1) to consolidate the Chicago & North Western-Milwaukee Road merger case with the Rock Island merger-control cases now in hearings; (2) to reopen the C&NW-Chicago Great Western merger proceedings and consolidate this case with the others; and (3) to begin a general investigation of all these proceedings with the aid of "disinterested economic and transportation specialists to appraise the economic and competitive implications of each of these proceedings."

Good American Award to Quinn: Milwaukee President William J. Quinn was presented a Good American Award by the Chicago Committee of 100, an organization working to further racial equality. Milwaukee itself received the organization's certificate of commendation in 1965 for "observing the fundamental right of equality of opportunity in employment." The Good American Award honors individuals for "outstanding contributions in the field of human relations and for practicing the basic principles of American democracy."

Vapor markets switch heater: A gas-fired switch heater developed by UGC Instruments and formerly sold by American Meter Controls will now be marketed by Vapor. Models are available for AC or DC, natural or LP gas, and supplied with manual or automatic control.

C&NW gets a majority: Holders of 52.2% of Rock Island's outstanding common stock have indicated acceptance of Chicago & North Western's control offer, C&NW indicated last week. And that makes the offer binding upon North Western and upon accepting shareholders—subject, of course, to the ICC's approval of C&NW's control proposal. RI shares deposited with North Western—in exchange for C&NW certificates of deposit—are represented by Union Pacific CD's and some RI stock.

Giving freight cars a physical: Radio telemetry and other space-age techniques are being used by ACF's Technical Center for simultaneous measurement and transmission of stresses in critical components of several cars in moving freight trains of up to 100 cars. ACF engineers use the over-the-road data to supplement extensive testing conducted at the Technical Center at St. Charles, Mo. Sensors on several moving cars transmit their data to an instrument car, a converted coach, which contains electronic data recording and processing equipment as well as the radio system for receiving the test information from points up to a mile distant. From such testing, says George Reed, director of engineering and research for American Car & Foundry division, can come data for designing and manufacturing equipment "combining the optimum in performance, long life, and load protection."

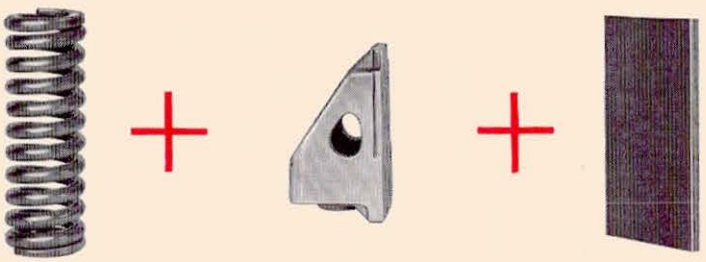
Truck tonnage: Intercity truck tonnage in the week ended July 11 was 14.8% above that of the previous week of this year (which included the Memorial Day holiday), and 6.5% ahead of the volume in the corresponding 1965 week, according to American Trucking Associations.

Current statistics

Net Income	
3 mos., 1966	$172,000,000
3 mos., 1965	123,000,000
Carloadings, revenue freight	
24 wks., 1966	13,445,974
24 wks., 1965	13,254,422
Freight cars on order	
May 1, 1966	59,415
May 1, 1965	35,774
Freight cars delivered	
4 mos., 1966	29,303
4 mos., 1965	26,138
Serviceable cars	
June 1, 1966	1,412,244
June 1, 1965	1,401,396

SIMPLICITY

of design gives you important advantages all the way down the line



BARBER

STABILIZED TRUCKS

SUPERIOR PERFORMANCE

LONGER SERVICE LIFE

LOW COST MAINTENANCE

BARBER EXPERIENCE
RESEARCH
RESULTS

2890

BARBER Standard CAR TRUCK COMPANY

CHICAGO • PHILADELPHIA • MONTREAL

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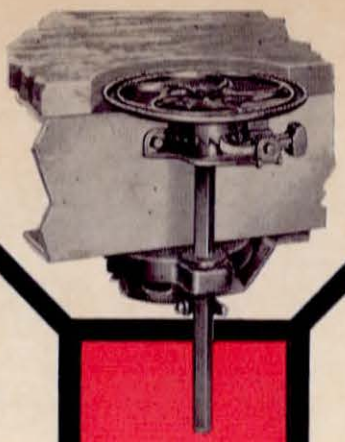
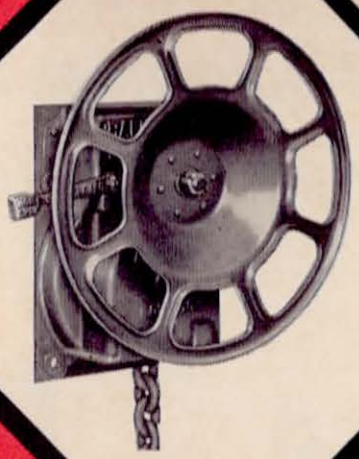
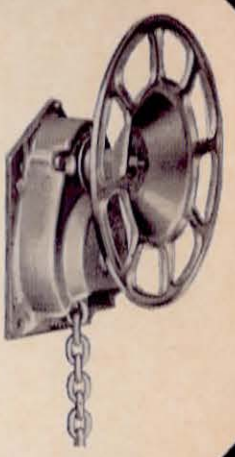
HORIZONTAL
DROP-TYPE HAND BRAKE
Equipco A.A.R. No. 3657
(Drawing No. 20021)
☐ Expressly designed for Flat Cars



VERTICAL WHEEL
HAND BRAKE
Equipco A.A.R. No. 3750-E
(Drawing No. 10024)
☐ With non-spin 2-way wheel





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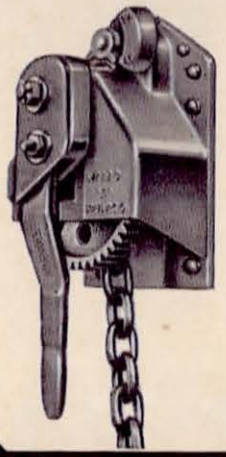

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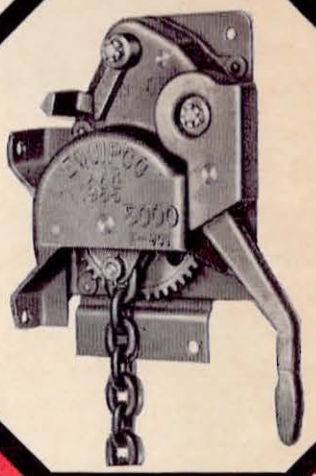

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THE ACTION PAGE

Computer control: An academic question?

A characteristic of this brave new age of change in the railroad business is the way more-and-more expensive devices are designed to perform massive, repetitious operations (where savings are easy to spot) or to perform tasks that have never before been undertaken. The latter kind of work, of course, is risky and expensive. The cost of doing this kind of work is piled on top of whatever ordinary expense occurs in performing traditional rail service. Efforts to use computers for "real-time" operating information, engineering research, analysis of traffic, and so forth, get the headlines. They also breed arguments, as to whose work is more important—and who should control the computer.

This may change in time ahead. Equipment displayed at the 1966 International Data Processing Conference and Business Exposition at Chicago last week suggests the possibility that computers may soon become a much less exotic item to managers. One major computer manufacturer introduced a new computer series at the show. The series represents both advanced technology and high performance—at bargain prices. A basic model rents for a little less than $1,000 per month—a far cry from the expensive machines that hitherto have been found in railroad computer centers. Not that the large computers are on the way out. Far from it. Bigger, faster and more complex computers are still being delivered—and even bigger models being planned. But, from the standpoint of price, computers no longer require a financial convulsion at the corporate level.

The technology that is producing larger and larger computers is also producing equipment that can be economically applied to local work and problems in a way that would have been unthinkable a few years ago. Such machines may well find economic application in the hands of division superintendents, traffic officers, shops, stores and purchasing departments and in engineering offices. The old industry question—who should control the computer?—may very well become meaningless.

Clejan's mark a large one

Every large railroad has its great men, men whose obvious contribution to the affairs of their companies make them larger-than-life to their contemporaries. Such men as Warren Brown of Western Pacific, Bob Emerson of Canadian Pacific and Walter Tuohy of C&O-B&O—outstanding leaders—were, at the time of their deaths, rounding off careers of great distinction in the affairs of the companies they served.

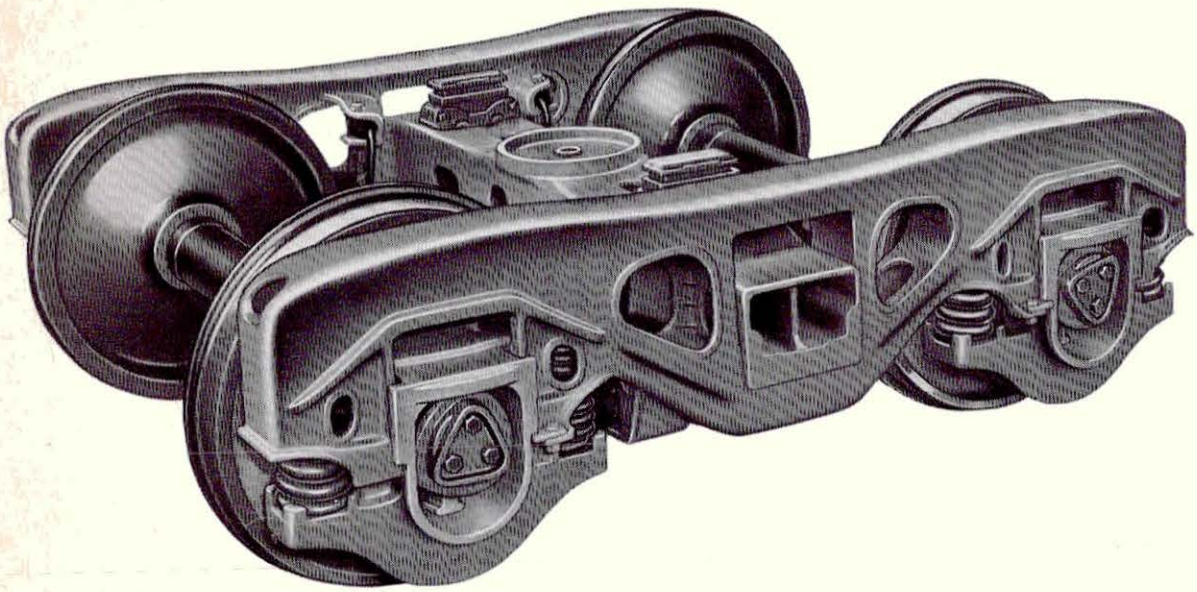
But who can properly assess the industry's loss from Deodat Clejan's death in an airplane crash June 16? He was only 40. The railroad industry had every expectation of another quarter-century of brilliant contribution from him. He had, after all, distinguished himself in railroad equipment-design at an age (23) when many men are still in school.

He was an outstanding engineer and developer of railroad devices. When the Paris-educated exile from Rumania arrived in the U.S. after World War II, he had some exciting ideas about transporting highway trailers on flat cars. This paper's director of research and a number of our editors were taken with the intense young man's vision and brightness. They kept a close watch on his astonishing progress with the industry's operating and mechanical officers. The perceptive managers of General American Transportation Corp., bought Clejan's ideas—and persuaded him to become GATX's director of transportation planning.

It was a role he filled with singular felicity. A sound engineer, he possessed an uncanny knack of illuminating the chain of technical, economic and commercial factors in an idea. In a short time Clejan achieved a great rapport with railroad men.

General American, the company he served so well for so long (and for whom he served as a consultant after he formed his own company, the Cushion Coupler Corp.), his many friends in the industry and his many friends on this paper's editorial staff—have lost a brilliant and valuable visionary.

His most enduring accomplishment may have been his considerable contribution to the art and technique of piggyback, or it may be that the high speed-transportation system, RRollway, still under development at GATX, will someday make the Clejan mark on U.S. railroads larger than ever. However that may be, the industry will be a little less for lack of the lively and penetrating insight he brought to most all problems that came his way.



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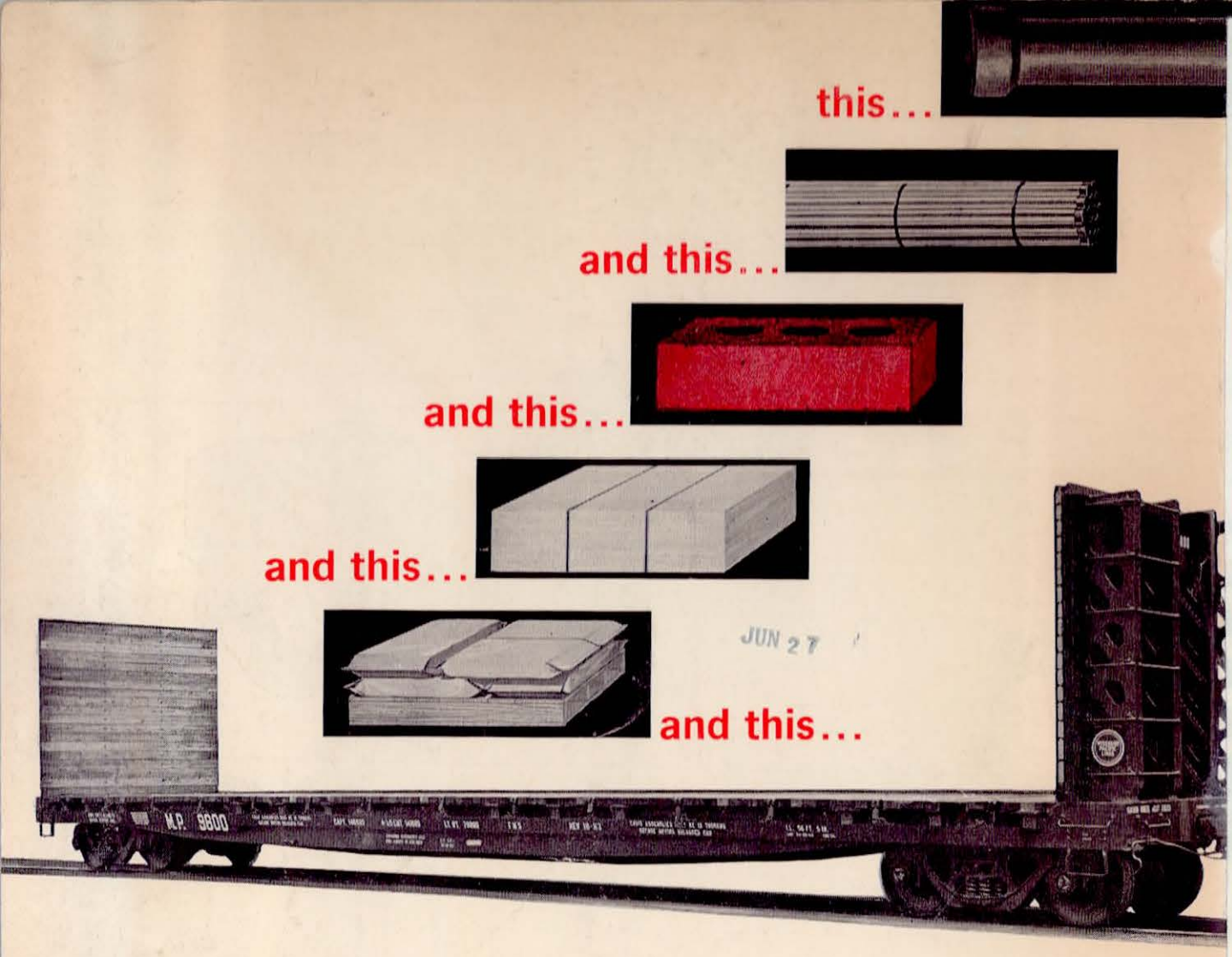

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